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MANAGEMENT PLANNING & CONTROL

THE MOST EFFECTIVE PATH TO PROFITABILITY

MANAGEMENT PLANNING & CONTROL

THE PRINTER'S PATH TO PROFITABILITY

WALLACE STETTHUIS

Designed and Illustrated by ARTHUR H. FRISVOLD

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Most of the economic principles are rooted in the work of Ignace A. Mathes. His last two papers in 1948, published followed his pioneering efforts since then, having the privilege of working closely with him on several occasions.

The development of the management control system at the William Reed Firm, which is the basis for this book, has been in every respect a team effort. In the financial field, W. Douglas Brown and William H. Williams have contributed a great deal. Chapter 10 on the Price Chart is largely Chang's work. The systems work has been led by Donald G. Harris.

C. Edmund Hester, III has had the difficult task of applying the pricing theories, and has developed most of our costing techniques.

The principles of personnel selection and management development included in our “management laboratory” programs are rooted in the tradition of the partnership of the owner and employee that has existed at the William Reed Firm since 1896. The company has never had an employee off his back at work. The engineering laboratory programs is under the capable leadership of Irving L. Wilensky is one of our of the founders, who has been with the company for 40 years.

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We have learned a great deal as our subsidiary, Rex All Graphics acquired in 1966, has adapted and refined our techniques under the leadership of E. William Green.

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Preface

In 1977 I was given the responsibility of managing The William Bland Trust, a 160-year-old company in Richmond, Virginia that could not find an obvious or pure commercial operation. The owners and the Board of Directors realized that the printing industry was changing dramatically and rapidly, responding—not at all slowly—to shifting markets and equipment developments. It was agreed that unless the William Bland Trust changed with the industry, its future prospects would not match its past accomplishments.

In retrospect, a manager today here ill prepared I was for the task, better aware that I had no ready-made solutions for the problems facing me. There is little consolation in the fact that one might agree with her (and should be with all his fellow printers). However, one reality has been changing at a rapid rate, as an environment of generally un-certain economic conditions everyone has been struggling. When I joined the trust, I became a fellow struggler.

I recall reading somewhere that one of the most striking points in William Bland's life was that William had always been fixated in the dilemma of how to fight the printer war. My observation is that we, as managers of printing companies, have made the same problem. It's not how the fact that successful management involves managing the change—change that will inevitably differentiate the past, or even the present. The challenge of the simplest business—sometimes we need. One of the challenges of the past, step progressing with "competitive" techniques, and develop management skills and procedures that will remain as we move ahead.

It's true, another truth, because whatever the threat was—not the fact.

4. Searching Harder for Answers

Recognizing our situation at William Ford, we began to search for answers to our many problems, and have moved far up in our efforts to learn and to solve the things before us.

We quickly found that there is no single place to look, and no one person to whom we could turn to get pointers, quick or slow, either. There are many sources of answers around us—reading, visiting plants, and attending seminars. Gradually, we found other persons who were at the forefront of developments in the technological and management areas in which we were interested. With considerable hesitations and reservations from these industry leaders, we were able to make progress—slow progress, to be sure, but much more progress than we could have made without their useful help, as there can be slowly gained.

We also learned much through the hard work of students—especially persons like "Patrice" who have high, but no less tried and frequently failed, though, in failing, we usually have either found an answer, or have come that much closer to one.

During the past decade or so, our research has increasingly resulted in effective management techniques and techniques that have been developed and applied successfully by management in a wide variety of industries. This has been especially gratifying; the successful outcome that many of these principles and techniques are relevant to the printing industry. Once they are recognized and understood, the challenge is simple to transfer again these few general concepts into this line.

It is our conviction that when a printer realizes that he must be a manager first and a printer second and systematically begins to build the requisite management skills, he and his company will begin to make progress toward a more secure and profitable future.

Why I'm Here?

The idea of taking a hard-earned newspaper that I usually described as quite important, however, that containing evidence of business failure and the lack of progress in our industry, combined with encouragement from those who became aware of our own management efforts, suggested that an explanation of our approach might be of value to others facing the same problems that we have been through.

The viewpoint presented is not of a management expert with all the answers but of a fellow struggler, a colleague in the tasks of the

spelling, letters who has used all the same problems as others. The material is not entirely original, but is, rather, a coordinated overall approach to management complications for new ideas and the ideas and thoughts of others.

There are also some ethical considerations. An individual's progress is affected by industry conditions, and we like to think we will find (I quote) the progress for an industry that is prospering. If this/that one (I quote) is more used, we (I quote) greater industry profitability, it seems logical to assume that we will find benefit.

In addition, we are indebted our obligation to the many who have been so helpful to us. We share our ideas in an effort to partially repay those who have opened their doors and have let us guide them (I quote) experience. We hope so that this book will help those who are also searching for answers—and perhaps someone want to begin the quest for improvement.

The First Step

"The longest journey, as all know parents put it, "must begin with one step," and it is with such an attitude that the complex subject of management control must be approached. It cannot be mastered quickly or easily—and its scope and complexity should not be underestimated beginning. It can be mastered by working at it in small pieces, gradually expanding understanding and confidence.

This first step is to approach the subject with an open mind (I quote) of which we are that frequently have spoken with skepticism—and sometimes with outright hostility. Because when it is in the hands of people with the traditional approaches to learning, a positive business. We do not claim that our approach is perfect and does not recommend that past experiences be discarded lightly, particularly if they are successful. But we do believe it is in the best interest of everyone to be open-minded.

It is true, this book will appeal particularly to those who are dissatisfied, but all learning begins with a desire to learn about the subject. That there may be room for improvement and that someone else can help.

If you are satisfied with your business—in current profits and its outlook for the future—and if you are satisfied with your performance as a manager, this book is not for you.

And if it is not you, do not expect any answers to your problems... From the first of four chapters on the importance, instead, that much of the material, going to be heavy going and that most of the topics

will require further research and study, utilizing many other sources. The present text book, not so the student-only source, but as merely another source to your efforts to improve your performance as a manager and that of your company.

This book is written to discuss management as a profession—a serious and unique discipline—that can be learned, and mastered. That need be learned if you are to deal successfully with the complex business conditions that confront you.

2. Why-2 Read This

Since the primary audience is composed of relatively small companies, many of this book's readers will be managers of such firms. Frequently, these managers are turned off by the type of material presented here because, they say, it is great for big companies, but "too sophisticated" to be applicable to their small operations.

Frankly, in my opinion, this is the pit of laziness, a complaint, but the basic principle of management—such as the importance of developing a corporate strategy or a rational approach to planning—are applicable to all companies, regardless of size. Similarly, the general framework of a management control system can be applied to all firms. The only place where the subject is not different is in the specific techniques by which the principles are implemented. The smaller firm has less complex control and communications problems and can rely on more informal systems. But even the simplest system can benefit from a logical approach to the control problem.

3. Overview

Briefly stated, this book discusses principles of modern management and control techniques and shows how they can be applied to a planning company. It emphasizes the importance of tying these principles and techniques together into an overall management control system, and does this by concentrating on five topics:

1. Disposition

Every company is subject to the influence of industry conditions, whose origins and benefits must be understood if there are to be effectively dealt with.

Equally important as a foundation for building management control systems is an understanding of the meaning of management—what it is and is not—along with an understanding of the nature of the control problem.

This section attempts to place the need for, and the nature of, a management control system in the perspective of short-run business considerations and principles.

II. Developing a Corporate Strategy

A prerequisite for a successful management control system is a sound corporate strategy. This section outlines the factors that must be considered in developing such a strategy.

III. The Pricing Decision

Often neglected and misunderstood, short-run business is the single most important issue managers make as a daily operating issue. Rational pricing policies are critical to the overall success of a business system, and a prime requirement of the management control system must be to provide the information necessary to develop rational pricing plans. This section explains why pricing is so important and how it fits into the overall management control system.

IV. Developing a Management Control System

Having accepted the need for a control system, developed a sound corporate strategy, and recognized the importance of the pricing decision, the manager will share the task of designing and installing a system in his plant. This section describes how it can be done.

V. The Plant System Challenge

It is quite evident that the principles discussed in this book are valid and enduring; that, to be effective, they must be implemented. We do not feel that our techniques of implementation are infallible. Rather, we have they have made us be desired and should be constantly reviewed and improved.

Recognizing the limitations (scope) of our techniques, they are described in this section as we have used them, based upon existing and planned applications. Through our own efforts, and the independent efforts of others, we have had time will bring changes and improvements. Our techniques, therefore, are offered only as a beginning.

VI. Ultimate Test

The ultimate test lies in the answer to the question, "Does this approach work?"

We can say only that it works for us and seems to be working for

others who have tried it. We have found that the weakness of the system is not in the concept, but in the execution of it. Like a new football offensive system, it may sound very good on paper, but can it be brought to the players?

The system we describe takes a great deal of learning at all levels and it may never work as well as you would like, because the execution tends to be faulty. But as you keep working at it, the execution will improve. There will be mistakes, it will become more complex than anything else we have found.

Let it stand now, only that this system is not a guarantee. It will not automatically succeed. It will be helped only by those who want to work hard when work is making it work.

William Harrison
Richmond, Virginia
September 26, 1971

MANAGEMENT PLANNING & CONTROL

THE FORTUNE'S PATH TO PROFITABILITY

PART I

Perspective

YOU AND YOUR INDUSTRY:

An Appraisal

It has been said that business plans are technology of selling that has evolved from the Indian practice of collecting dead animals in a single, hand-held container used as the most sophisticated method of mass animal transport by means of animal trails, elephants and anthropomorphic apes. Similarly, the management technologists' approach has been questioned as it is less dramatic change in the character and functioning of the industry's operations.

Corporate Strategy Journal
November/December 1982

A precise and dramatic act is, therefore, undertaken from an industry perspective, to bring each part of the industry—the technological side—of the evolution of the printing industry. The full story is one that each printing manager must understand if he is to develop the strategies necessary to survive and prosper in the changes that have yet to be written. The full story includes commercial management.

We invite printing industry managers to the workshop, a workshop, multi-level and guided by a committee, social and technological factors that will help us to work. As printing managers, we must develop strategies and printed techniques that deal effectively with the operating problems created by these factors that are beyond our control. It is imperative for the development of the capability to do

understanding of the industry—what it has done, where it is, where it is going, and, in each case, why.

Begin with Self-Appraisal

We suggest that the pricing manager actually appraise himself and his surroundings within the overall context of the industry, then, then, he can begin to do that his understanding in terms of three categories of firms.

The first is those companies that are still quite profitable, but have noticed the need to find the time to develop more modern management techniques, to build an organization that will perpetuate the business, and to continue to use the technology. These managers should recognize that all good things ultimately come to an end, and, realizing this, they should be taking advantage of their current prosperity to prepare for the future. They should be aware that making a prosperity run for length, at the expense of tomorrow's profits.

The second group is composed of companies that are already experiencing profit problems. Some of the strategies are about to be tested; if their situation continues deteriorated to bad situation, and are looking for and are looking help. Unfortunately, however, these are not managers whose companies are experiencing profit problems, but who are not responding in the warning signs. They are either unaware of them, are bewildered, or are hoping for some miracle that will eventually resolve their problems. Unless something changes, these companies are better off as not here, their proposals cannot be considered very favorable.

Finally, there is the third group—companies that have already found up to their problems; sufficient began to develop solutions. This is an encouraging position, and these companies should encourage them not get out of the trouble. No two of these companies have approached their problems in exactly the same way. Some have emphasized market development, while others have become more sophisticated in production efficiency control. A number have developed very effective financial control techniques.

Regardless of the approach, one needs stand out. Ultimately, an open-minded and direct result, no problems remain in increased profits. In addition, the deeper that managers get into new techniques, the more they realize how much they have to learn to complete, as business reveals new opportunities, leading to a gradual evolution toward the development of an overall control system, taking many significant part of the functional areas of the business.

As a manager, you must decide which group best describes you and your company. As to the following, "It is your life, and you own the something about it." You must be honestly honest with yourself in appraising your direction and influencing not inappropriate sources of action. With such an honest appraisal, it will be possible to develop a plan of action consistent with the direction the industry is taking.

LOOKING BACK

'THE PRINTER'S ROLE IN SOCIETY'

In 1971, Peter F. Drucker, one of the nation's foremost business scholars and writers, published a book that proposes to present a picture to its title: *Management: Tasks, Responsibilities, Practices*. In it Drucker makes the telling point that as business "rules by itself and is its own law." Everyone is an expert of society and even has the title of society."

There can be no industry to which this thought is more significant than the printing industry. In the words of the American poet and novelist Stephen Vincent Benét:

"What happens to her our way of getting to our nation . . . The written word—the word written—is not only a word and a message for the present but is like that word very of humanity. When we have lived with this great world of the past—we have they, with the past, to us and we can make our new great words but not we in day—then history changes."

The printed word has been the foundation of civilization. Without it, and without the enlightenment of men's minds that is the result of education, civilization could have made little headway. First and foremost is provided to the three R's—reading, writing and 'rithmetic, with one providing the input to printing, one using the output of printing, and all three dependent upon the printed word for their communication.

Modern printing techniques which have made possible the mass production of books and magazines at low prices has played a major role in the development of mass education. Mass-educated nations have larger literate populations, and it is the highly educated population that has produced the widespread scientific and medical advances that are responsible for the high standard of living we enjoy today.

Equally meaningful has been the role of the printed word in man's

political struggle against it again. The history shows that different groups each made their projections that are conditioned and conditioned. Indeed, the revolution of ideas in the modern world is freedom of the press—the freedom to critic and point and even condemn ideas about nations which concern the public's welfare.

The thought of securing the printed word has history in its justifying sense in our hemisphere. The theme is like in the world today that has not been changed, at least in part, in the printed word.

Printing is a Form of Communication

The significance of the role of printing in history is that it has developed not as a neutral in itself, but as a means of building society's various communities. This is a very important point to make in presenting the history of printing. We as printers, past and future, the more sensitive of the subject, perhaps more than the others, have been concerned with the business of the national state, though that they performed a transportation function as a result, they failed to recognize the competitive threat of other forms of transportation—the automobile, train, airplane, pipeline and ship. Besides, we as printers must never forget that ours is a communication function.

I should like to share printed history a few years ago with his statement that "the medium is the message." His program for the printers was not encouraging. Whether or not we agree with him there can be no argument about the fact that if the printer's office is customer as plus an important role in society, it will be because printers have recognized society's changing needs and increased ways of meeting them better than competitive media.

TECHNOLOGICAL DEVELOPMENTS

The history of the development of the printing industry is a fascinating story that spans a wide range of technologies, each of which has developed along separate paths—ultimately converging into the printing industry we know today.

One example, the invention of the Fourdrinier process for making paper was an essential step in the change of the paper industry from a small volume, craft process to a mass production, machine-oriented operation. The principle was introduced into this country by the American papermaker, Thomas Talbot and John Jones and was in general use by 1830. There have been many subsequent developments in the papermaking process, all of which have con-

publishing industry's activities make further steps of lower cost and/or larger quantities.

Another example is the development of an independent ink industry which began in Philadelphia in 1811 with the establishment of a General Ink Works by Johnson. Prior to that time, printers generally had made their own ink. From around beginning the modern day ink industry has grown. Without the complete knowledge that printers had about, and stable ink, printers could make little use of their high-speed presses.

The range of technological advances upon such diverse fields as electricity, metallurgy, mechanical engineering, chemistry, and, in more recent years, electronics and plastic sciences, have facilitated the publishing activities of each of these important fields and their contribution to the development of modern printing techniques. But, as we lately realize the development of the printing process themselves, begin to mind that the development of the other areas were and are essential to the progress of the printing industry.

The Early Years

The revolutionary process of mechanizing the printing process began as early as 50 B.C. in China, where stone printing was done from wooden-carved blocks and clay tablets. However, such skills were never developed as a large scale.

The accuracy of the process also printers is noted in the centuries to follow by letters, religiously copied whole books. Some of these works is certainly not quantitatively impressive when the conditions of their production is considered. They were transported to the back of great paper-and-ink, but of which they would had to make themselves. The effort required to produce a volume meant that very few books were produced, and, outside of the church, only the very wealthy could afford them.

Well into the 15th century, the craft contained the basic printing process. The technological progress since that century is divided into three periods, each of which deserves to be called a technological revolution. Each revolution shows two important characteristics:

First, we mechanized the skills and techniques of existing processes, forcing the industry to learn new skills. For those who could not or would not get with the official except the slow, the small has been automatic change.

Second, we have produced new materials for the production of,

creating opportunities for those who sought no religious life.

The First Revolution

The first great technological revolution in printing processes in western Europe to begin in the 15th century began with the invention (about every technology has been about...)the development of movable type, said by the German Johannes Gutenberg. By 1480, Gutenberg had built a printing press to handle his type and the chain of events that was to build to a modern printing industry had begun. The press, interestingly enough, was adapted from the cheap and slow press that was (possibly) household items not that ago. It was quite simple, though very slow, yet the design proved efficient enough to be used for more than 400 years without significant improvement. By 1500 such presses had been set up in 100 places in Europe, a fact that illustrates the tremendous impact the invention had on the way of life of that period.

From any great invention (perhaps the invention of agriculture, which effects became numerous, and techniques and improvements in the invention came relatively quickly) such was the case with printing. For by the late 1480's, Peter Schöeffer, an associate of Gutenberg, developed metal type set in plastic molds and hand mold presses used to design the columns of the machine in which the type was cast. These innovations meant that loads of type could be produced in quantity and made available to printers throughout the "civilized" world.

By 1480 the printing craft had become highly skilled and widespread, creating a greater demand for printed work, with the capabilities of the original printing press design slowing production its output. Responding to the need for mechanical improvements, a Hildesheim master William (perhaps) Shoberg invented a mechanism in which the volume of characters passed through a wooden box, from which the plates hung. The block was guided down to the type by the wooden frame of the press, improving control and increasing speed.

Shoberg also developed a device for holding the type level in and out under the plates, reducing the time required to set the type.

The Lesson

While these improvements, and a few others, were applied singly, they significantly enhanced the printed technology in most (the demand)

for printed products. This meant that even if an idea or variety of books and pamphlets could be printed, it is seldom met. There still were not within the means of the mass in the street, but distribution had become widespread enough to see the needs of literacy in the general population.

Of particular interest is those of us who live with constant change in the length of time these improvements took to the shop, and their duration. There were at least five 100 years.

The British Revolution

The world of the 17thc was a new and exciting place. Europe had emerged from the Dark Ages and experienced the Renaissance: a period characterised by intellectual advances in all the arts and sciences.

The New World was beginning to prosper. Europe was taking its increasing nature of the enlightenment: the scientific method, people became enlightened, the issue of human rights, and freedom, came to the fore.

One coincidental broad change was the growing availability and spread of the printed word through the printing press, with broader possibilities the widespread distribution of the writings of such intellectuals as the astronomer Copernicus, Thomas Paine, whose pamphlet *Common Sense* exerted such a great influence on the American Revolution.

According to the noted journalism historian Paul Lunt, that, all but two of the colonies had newspapers by January of 1766. There were 35 weekly newspapers, five of which were in Boston. Many more had been started and abandoned.

It is not hard to expand on the influence the newspapers of the day had on the formation of public opinion in behalf of the cause of freedom—as the harbinger of which was the potent voice of the printing industry, Benjamin Franklin.

The printer's press was originally reported to publish newspapers, and in the 18th century, virtually all the newspapers in America were edited and published by printers. However, the printer's influence went beyond his newspaper, his operations usually including the local printing job shop, and even the publishing of books and pamphlets.

And as the world of the 18thc was awakening, enlightening, political due to the weight of the printed word, the population in turn was demanding more in the way of printed products.

The Industrial Revolution

In 1880, both Europe and the United States had started down the path of industrialization, during a period named The Industrial Revolution. The innovations of the time were machines that reduced the labor of man and increased his productivity—sometimes raising the quality of his product.

As the world turned its back on nature, the knowledge, as represented chemically collected printing power—for the first time in more than 200 years.

The American, Mark, in his book, *American Journalism*, described the earliest change:

"Eight large sheets in the old Gutenberg type of press were introduced from time to time in the early years of the 18th century, but the first radical departure from the ancient model was the 'Vanderbilt Press,' invented by George Vanderplaf, of Philadelphia, about 1820. It abandoned the same principle and substituted power by a series of levers, built entirely by iron. It had great strength. It cost about \$100, and was selected by most of the New York papers, as well as the many in Europe."

Large and Better Presses

The war had begun, and the world would never again be the same. As people wanted more newspapers and books, looking for printers to find ways to do this, a stream of improvements flowed in the small job press and for commercial work. Larger and better presses were built in smaller books and newspapers.

In the small job press itself, the hand lever press was in a steady power effort, driven by a hand handle, and it was during this period that the Vanderplaf job press was designed. Followed by Colding of Boston and ultimately manufactured by A. Chandler and Sons, this lever still is widely used for small jobs throughout the world.

In the 1830s, Isaac Adams of Boston developed the hand and plate press. When the patent was acquired by H. May and Company in 1870 and the press improved, more than 1,000 were made. As late as 1900, a few were reported still in operation in Boston.

The war is also the hand press appears largely in the literature of early press designs, yet it is true that new printing presses, with long and noble history in the industry, the company, became one of

the nature of the Third Revolution, going forward in the early 1990's.

Another early major development was the steam-driven cylinder press, operating on a principle that had been known as early as Gutenberg's time, but it led to a German-English printer, Frederick Koenig, to build the first practical press in England in 1810 and from this point on there was no stopping the continuing mechanical improvement of printing presses.

Improvements were coming across the board. In 1818, the first folding machine was built. Then, in 1825, William Bullock of Philadelphia built a web press and two years later H. Hoe built a rotary galleying press but the London Works producing 11,000 papers an hour.

The same year, 1825, photoregulating came on the scene, and in 1830 Frederick H. Fox developed a machine to mass produce. Still another tool was come with Hobe's work in New Jersey with the application of lithography—the invention of color's offset printing process.

The Linotype

Just as printing presses were improving so were significant developments taking place in the field of typesetting. In 1822, the first patent for a typesetting machine was issued in England, to William Church of Concord Mass., and for the rest of the century there were innovations added to this press, with over 100 patents issued for typesetting machines in the United States and England during the century's middle years. From 1821 to 1870 more than 100 different machines were invented or improved, but none succeeded in giving the hand compositor any real competition.

Then, in 1867, the Linotype machine was invented by Thomas (Bugsy) Mergenthaler, a German living in Baltimore. By 1870 more than 100,000 of these machines were in use throughout the world. In 1884, the Linotype was introduced as an improved version of the Linotype, and the new machine dominated the typesetting industry well into the 1920's.

The Lincon

Compared to the impact of the First Technological Revolution, the Second was very quiet—only some 23 years elapsed from the last major invention, the Linotype, to the beginning of the Third Revolution.

During that time, printingpresses continued, becoming one of the

major industries in the United States. Because it was working in extremely cold and wet conditions and found the mechanical means in the oil refineries and refineries, workers emerged from the period almost totally illiterate, with an incomprehensible thirst for more education and knowledge.

In such difficult conditions, there were questions—there's a demand for, or could not, change, and there was opposition—initially, governments, which were about it as industrial public support the development of progress. Later, labor support progress in the effort to, for instance, a better local competition in the New York newspaper fought the introduction of foreign models.

In the long run, however, because they promoted the industry, to better serve the public, thereby creating more demand for its products, the technological changes created more jobs, and more profits.

The Third Revolution

But as soon as the matter of the Third Technological Revolution, that it has just begun, there is no history to write about. We currently describe the changes taking place.

Obviously, this revolution can be called the Electronic Revolution, but it is rooted in the tremendous basic scientific advances made in chemistry and chemistry during and immediately after the Second World War. In 1945, the Second Revolution, the computer revolution of change is coming from computers, which struggle to retain their modest position against magazines, television and radio.

Process Changes

In the process, the process of the first half of the century, the first printers were the press—printing facilities were reduced but several types of important plates. In the 1950s, offset began to be used to produce a quality product. There were equipment, improved paper and ink, and the development of the computer later, which directly affected more automated than integration for many products, particularly because the machines could run faster, with shorter maintenance times. Offset machines printing from a flat surface on a special plate with the image on the plate developed photographically. The principle depends on the natural tendency of oil and water—the water keeping the ink from applying to the non-image surface.

The same "effect" comes from the manner in which the ink is ap-

plaid or checkered, then to a blanket, because he has to get comfortable, or often, to the paper.

In the 1950's, checked shirts had begun to dominate the commercial color market, and at the same time, large checked shirt production—process that joined both sides of a shirt in one piece—became the foundation of the *band* field.

In 1970s, such shirt-color painting of silk-cloth material of checked shirts had begun to develop a strong foothold as the expense of the larger checked-shirt process went through the roof and got 20 years old.

For the longer runs of the newspaper and magazine fields, such interpretation plays an important role; and many experiments are being conducted with plastic plates instead of the old metal-plates. The new, long, new, process—painting, from checked plates in which the change is made into the surface is an important process. As such shirt manufacturers compete for larger runs, and greater flexibility more competition for shorter runs, there is a developing tendency to switch out the plate for web letterpress.

The large manufacturers about 1970 were based on painting: new dyes, individual—changing from silver-inked dyes, and the effort involving the use of water to eliminate and lower from painting—as long-term candidates to render obsolete all that we do today.

Other processes

In the bindery, new plastic bindings have replaced old ones; bindings, and machines that have been essentially mechanical in the past now sport new electronic controls—based that is dependent on the processor.

But, perhaps the biggest changes are progressing in the computer area. Photo-composition machines began to be introduced in the 1960's. In the mid-1980's, their number had been widely increased and they were widely accepted in 1970's.

It is interesting to note that at the time this book was written, checked letterpress and hot metal typesetting machines were no longer manufactured in the United States; machine production of large checked shirt process—the landmark machines of the first half of the century—is done internationally.

The Letter

One can learn not to forget that the Third Revolution—of hard to sleep, and that is that history is repeating itself. Change is coming.

Latin, but the consequences for the nation, the war built up an industrial enterprise and technological ability to serve industry to meet its needs. Those that do us, service, and those that do not, perish.

THE ECONOMIC RACER

It is important to understand the economic ramifications of the technological changes that have marked our industry's development.

The first printer in the United States is said to have been Matthew Fiske in 1639, in Cambridge, Massachusetts. However, the first printing was this country, was done by the Spaniards in Mexico as early as 1539. The New York Public Library has been identified books about 1818.

The early growth of the printing industry in this country was particularly slow. In 1776, there were less than 100 printing shops and these located in the eastern coastal towns. As the country began to grow and move westward, however, the growth rate of the industry picked up. By 1880 there were 100 printers in Philadelphia, printing more publications in the English language than any other city in the world except London.

During the following years, the growth rate of the industry continued a steady upward trend, which has enabled the size of the industry nearly 100 years.

The size and nature of individual companies varied to mirror the development of the nation until about 1880, as Peter Christy points out, "... society was still in its infancy, and the industry was still in its infancy, small schools, the individual professional—whether doctor or lawyer—practicing the trade, the farmer, the village, the neighborhood trial store, and more. There are the beginnings of the business—but only the beginnings."

There is considerable story about what is an even, consider change. In 1880, the U. S. Supreme Court thought that the 14th Amendment to the Constitution had been brought into 14 years for the good of the nation, that the 14th Amendment, which was signed in 1868, was at least 14 years, as long as the original "great" laws of the country.

For many years it is the fact that in 1880, with there were the so-called major companies, the other 14 years would not have stood, and that little or less the overall U. S. economy, that had been advanced by their power.

That the printing industry was not able to make up of relatively small

competition is extraordinary. Only India has its workforce that has no significant trend towards increasing their domestic consumption that commensurate with and is needed in the Third Technological Revolution. Even in 1987 of some 22,000 printing houses the number of employed still employed fewer than the unemployed.

Why has the industry been slow to develop along the lines other industries did? There are five major reasons:

1. The printing industry has not been capital intensive

Because there have been no great capital requirements to set up a factory, the ease of entry into the printing business has been remarkably simple. Rather than being capital intensive, the industry has required highly skilled labor, and given it has been limited rather simply of skilled labor in the given community.

2. There has been relatively little economy-of-scale

Until recent years, large printing companies gained very little cost advantage by manufacturing volume. Perhaps a prototype of printing, the large companies are needed to have more equipment and facilities than the smaller companies—but it was the same equipment, at a particular point the organizational problems associated with larger size actually make smaller operations more economical. This is especially true when companies tend to be managed by owners with relatively little formal management training—and perhaps less interest in it. Historically, the proprietors of printing firms were or became highly regarded as a craft—not as technicians, and were not prepared to run large businesses.

3. Market structure

First, we have been dealing with a custom designed product manufactured to reference conditions which prohibits obtaining the economies of mass production.

Second, there has been resistance of vertical integration. Printing firms of the first industrial that eventually did not change its product, nor market it to the next user. The customers—other publishers and businesses—change the product, and finally the ultimate distribution of the product.

The condition has led to a rather unique phenomenon. Almost all these printers who have grown large started small, growing and because they have developed new products and markets, but because the market was so many of them—collectively grew and there were about

enough to provide opportunities to grow with the industry. While there are certainly a few exceptions, most of the larger printers have had that experience. As there has been no three-to-one industry adjustment of the bulk dollar volume in the early years, the same transformation of the printer from smaller sized independent to a large company that can, nevertheless, in volume terms, be talked about large companies. A large printer is one who does in terms of sales 10 million annually. A good company is one who sells 100 million in a dozen or less months. A good printer is one who does a good job in 10 months, one who is an artist when compared to the better dollar corporations of other industries.

A third element of the market structure is geography. In the early product line in printing, the plant's proximity to the customer significantly affects the competitive situation. There is the question of convenience and service, the need for light or darkness, having better lines for communications and shipment of materials over distances, and finally, the cost of distribution of the finished product. A printed price may be better and when it is to be distributed a single unit, it is usually much cheaper to use a printer in that area.

4. The reputation of managers

The proprietary nature of the business may be one of those "chicken or egg" situations. As companies matured in the industry, situations developed: large operations, with the consequence that no printer is placed in the need for management skills. Under the competitive factor, however, the problems of growth become more acute. Management is not capable of coping with the increased challenges.

Certainly, in the early years of the development of the industry, there was no benefit to being large. But as time went the lack of growth and, thus, competitive prospects—especially in individual companies—must be attributed to managerial weakness. For many companies, there grew a need to have what is now called a manager. The difference lay in the management.

5. Impact—and lack—of specialization

For an industry as old, complex, and changing as printing, it is interesting to recognize how few as many years the job description in doing business, in which the traditional nature of doing jobs is emphasized, has been so profoundly changed. That was the case, at least until the 1970's, and even today, in the mid-1980's, there are many printers who have not realized the potential of specialization.

This is all the more remarkable because there is no single concept

that has had a more profound impact on American industry than that of specialization. The assembly line, one of the most original and important industrial techniques developed in this country, is a fairly simple thought specialization and standardization. Henry Ford was able to reduce the cost of the automobile to the point—very important at the time—where even the mass market could afford to buy one. The same assembly-line technique, permitting the mass production of price-tagged books, revolutionized the house of the book-buyer. In another example of specialization, consider the very special discipline of the fast food restaurant industry, allowing many innovations with very limited means to provide fast and less costly service.

It may sound heretical but you might ask, without the mass-production principle that has individualization scarce and dignified character of our lives? It is difficult to comprehend why it is such a process-oriented industrial environment where so many standard products are produced—the printing industry should say, no less behind. There is no real explanation of why a printer should not make jobs as if it is completely unique, if comparison of high and low profit printers convincingly enough that the degree of specialization is a significant factor in increased profits.

Perhaps the business has pointers to the same lesson specialization, which other industries have learned too. One business owner who dreamed that they be distinctive, or that single equipment are becoming efficiently as one job from the rest, so that most printers were repeated as negative and then undoubtedly volume they could get regardless of the time—as we they thought. What was the reason for the refusal to do so the job shop approach to the mass explanation about products rather very nature of the manager, unable to make any more operators—whether by, unskilled management and with a poor knowledge of costs and labor and initiative in that a better and more profitable way to operate.

In an interesting but alarming parallel, consider the fact that in many of the world's underdeveloped countries, as well as natural resources, have done nothing with these blessings, while other nations, that have continued by nature, have made as much progress.

As it is with the printing industry, which simply has not made enough of its potential for specialization.

Specialization is possible by product, process, or market. Hardly I can think of the printer in the United States clearly specializes in general commercial design. I'd never have specialized in high quality products with lower emphasis on quantity service,

which others have emphasized speed or low cost. It has thus accelerated an entire group of industries with various needs and critical functions. In spite of this, most companies still hold to their savings of the job shop approach, custom designing each job and in effect allowing the customer his specifications to come from the customer. The process then tends to that initiate a instead of first designing the need for a standard product and designing the product to meet the need. The result is an under-automation of processes instead of one that single out all manufacturing action.

UNDERSTANDING THE PRESENT

The brief history presented in the preceding pages tells us a little where we are, and how we have reached the present, which, indeed, is only a short piece on the road to the future. This is interesting not for past because it helps us to understand the present, a vital understanding of which is a prerequisite for preparing for the future.

Any given printing manager must develop a good grasp of his company's current situation, based upon an accurate objective evaluation. This is the first step in preparing for the future which must be accomplished the context of the overall national economic situation and the printing industry in particular.

THE NATIONAL SITUATION

There matters of credit, rate discounts of the national economy since for shared at the time of this writing, however, the first printing national economic problem inflation is critical issue that is expected to continue in the foreseeable future. The only uncertainty about inflation is whether the federal government, in its efforts to bring the rate down to acceptable levels have there in turn upon an acceptable level, but instead without triggering a deep recession, or a depression.

The government's options are severely restricted by the fact that we are here now in a "near model" economy. No national making can be totally self-sufficient. Excessive depreciation shows for two main reasons but most notably indicating that the problem of the international balance of payments, the pressure of world demand, and of particularly world price for domestic goods with other commodities remains.

For instance, the domestic inflation problem has been fed by

unbalanced supply-demand relationships in such basic sectors as paper and oil, to mention only two, there is also a considerable shortage of capital. The pulp problem has had a very significant effect on the printing industry. In fact, paper price increases can be ascribed to the fact that paper manufacturers have been attempting to establish a price-fixing system on their own terms. But the greater portion of the increases have resulted from increases in the prices of wood pulp and chemicals, both of which have skyrocketed because of world demand.

It is interesting to note (and we know the economy will never through crises of prosperity and recession) we believe that the long-term outlook has to be for more inflationary trends. In our opinion, only a radical re-orientation could change this course, and we don't think the governments of the world will let that happen if they can prevent it. In the long run, however, there will not seem to be a shortening of breath as the world the more inflation.

Let me begin to add that we are not responsible, and would not pretend to defend this position in a way which is an individualism. But we have not been really concerned with the group, the economy have on the economy, they were able to agree that it happened only a few hours under the situation division. In printers, though, we must make some basic assumptions as to what we believe. While general economic considerations must be sought in way price-rate approach, we believe a situation the long term's should come on, the continuing trend of inflation.

Other Issues: Inflation Means to Printers?

Most significantly, inflation tends to change existing cost/value relationships. Internally, it tends to make labor more expensive relative to machines and, therefore it means there is more incentive to automating. Externally—in the market place—as the cost of the printed product goes up, the competitive position relative to other communications media will change—unfavorable for the latter, sometimes for the worse. Thus inflationary inflation does not affect all products equally.¹

In the case of buying printing gone up there will be those customers, who must absorb the increased costs, or must pass them on by increased selling prices, and who will therefore, reduce or eliminate their buying of printed products. This may be offset by others who will buy printing in lieu of some other more expensive method of communicating.

the basic point is that inflation will change pricing methods and the costs of operating printing plants. Printing managers must recognize this and be prepared to deal with it.

CONCLUSIONS WITHIN THE PRINTING INDUSTRY

Looking objectively at the printing industry, we see many changes taking place, and four of the most significant developments are:

1. Printing is rapidly on the brink of an "Electronic Revolution"

The consequences of this revolution are made clear by the history of history. The old is discarded and those who do not adapt to the changing times die an economic death.

Since the 1920's, a continual stream of new equipment has come on line and many have processes have been totally discarded. Even so, the basic process has not changed; the new is merely an significantly more productive than their predecessors. The technology, it has become difficult to buy equipment that is not already obsolete at the time of installation.

A perfect example of this is the several generations of Platen photo-setting equipment, beginning with the manually operated 20" x 30" which cost about \$50,000 and were limited to the output of a single half-sheet per operation. Later, the 30" x 40" was followed by the 40" x 60", a dual-color photo-setter that could handle the output of a sheet or an 8x10 sheet. The 60" x 84" replaced and added the color to the 40" x 60", although it was substantially more productive. Reported its its own records and competitors. Market penetration through creation of credit in the Platen line, that has a small dedicated computer permitting it to handle color, make, and produce other automated tasks. These machines cost less than \$100,000 and were intelligent, and are much faster and more powerful than the 40".

An interesting side note is that Platen has no will share Platen's success in getting the same dollar volume as the 40". While its market expanded because of the relatively high price, the increase change was more than Platen could absorb financially, and it went into bankruptcy in the fall of 1976.

2. Printing Industry is Changing Rapidly

Recent history emphasizes that printing is part of the economic time industry. We have seen the growth of microfilm into the United

profit collapse and the impact of inflation on the national macro-economical situation.

While there can be no question that industry is dependent on government policies must recognize that there are not government-protection rights in the marketplace. It's here a great deal of competition and will have much more.

Many of our customers are being forced out of business because of changing customer tastes. Others are changing their buying practices. New customers with different requirements are coming on the scene.

2. The Printing Industry is Experiencing Serious Profit Problems

In our night report of an industry in the midst of a technological revolution, there are some more profit problems. The table below outlines the profitability of 1,346 companies (out of the 2,500 member printing firms of the Printing Industries of America) who submitted data.

	Percent of all firms	Average Profit margin (%)	Average Investment Turnover (%)	Average return on net worth
Profitability:	85.8%	11.83%	1.874%	18.82%
Profitable firms	1,154	11.83%	1.874%	18.82%
Losses:	14.2%	0.00%	1.000%	0.00%

Table 1. Profitability Characteristics: 1978-79 Period

Any interpretation of these figures involved broader-negative conclusions about the state of the industry. Since the figures are averages, they represent the best of the worst and the worst of the best. This means that there is a much wider range in the profitability of individual companies than the range of the averages.

It also seems reasonable to assume that the firms submitting data are the more successful companies. This, in itself, has statistically isolated surviving growth that produces a bias in favor of the better managed firms. Therefore, the loss averages may be expected to fall below the figures presented in this study.

If almost 75 percent of the firms in the industry are earning less than 7 percent on their investment and if interest rates continue at the 14.44 percent range of the last few years, as higher, in the case of leasing or installment purchase of equipment—and if technology forces borrowing to compete, the inevitable conclusion must be that many firms are not going to survive unless they quickly can establish higher rates of return.

a. The Industry is Suffering from Over-Capacity and Underpricing

An industry with the apparent peak problems of the printing industry must have some management problems. Perhaps the two most serious are overcapacity and underpricing.

Overcapacity exists because a large part of the industry's assets has been invested in the capacity of maintaining the proper balance between capacity and the volume available at profitable price levels. This segment of the industry does not consider capacity utilization, market size, and market share, and is generally less equipped with good proper market analysis and aware of investment evaluation.

The problem of overcapacity contributes to the pricing problem, for it is very difficult to exercise price discipline when one has a full capacity. However, the pricing problem also stems from a lack of knowledge concerning costs and rational pricing strategies.

Changing Management Perspectives

However much we may talk about modernization and the technological revolution, it is people—and people's attitudes—which spell the difference between a well-managed and a mismanaged printing company. Management means men; men are people; controlling people is men; we have not the technological changes, and no matter how great the willingness to specialize, the manager's responsibility for his job can mean the difference between the success or failure of his company.

The "Old Guard"

As we have seen, the typical printing business begins with but a few employees and progresses through years of steady growth. In the early years, there is no great pressure on management skills. If bookbinding, commercial or newspaper publishing is good product and using business common sense can make one quite rich, but slowly, inevitably, the need for positive management skills begins to emerge.

Then different things happen. While some owners recognize their limitations and progress no further, others begin ahead of and get into trouble. A few, however, grow as managers, and eventually make the transition.

All are subject to the question of management succession and its relation to liquidity. As the owner-manager approaches his last day's product financial planning, he finds that he begins to get his affairs into a more liquid state and prepare for retirement. He understands that in becoming more liquid, there is a loss of funds independent of personal considerations. Many owners, recognizing the need

the capital staff during management exercises, rather progressively with a cue, whether, emphasis or otherwise to begin taking over the reins. But some managers cannot understand or intellectually accept the fact that times are changing, that the effort in their company is negative and that they are not going to far better.

All too often, these individuals were given their colleagues for their company's development, as evidenced by earlier experience. But now they find that they do not have the capacity, desire, energy or self-discipline to change, and to grow as managers. Hence as time they are over their heads, descending in a sea of confusion and negative thinking, resisting change, just succumbing to frustration.

In a group, too many of the owners and their associates in the printing industry have not recognized the need to change and, as a result, they have lost the leadership role. The critical test is the ability to handle change: creating from successful growth, technology, and modern. For many managers find the test because they procrastinate, because involved in the too little, too late.

The New Professionals

Faced the increasing size and the growing complexity of the printing industry, successful companies are developing a new generation of managers—individuals who are managers first and printers second—the success of their positions.

Most management experts agree that a good manager can be trained if he has reasonable intelligence, can relate to people, and, most important, often wants to be a good manager. Although printing has highly technical industry, "working up through the ranks" is something who's open to a professional is not a management professional. A manager with a strong background in engineering background can, within a few years, acquire the necessary printing knowledge.

On the other hand, an individual with strong technical training in the printing industry, can acquire the formal management training through his own training efforts, or by taking courses. He must, could (ideally) however, acquire the technical management skills, including a knowledge of accounting, marketing, production management and organization. He must develop sufficient familiarity with each skill to draw on the expertise of others when necessary and must be able to supervise and evaluate the work of the agents.

On the one hand, a manager who comes up through the ranks must go through to develop his management skills. If on the other hand he comes into the industry with formal management background, he

must develop the industry expertise which will enable him to make sound decisions about materials, products, and equipment. A manager who does not understand technology is either making a difficult difficulty, maintaining the respect of his peers, subordinates, and customers.

The traditional background is not as important as it once was. The managers of the industry gradually is being transformed by those whose attitude toward their jobs is that of a manager. Printing is printing progress—as opposed to the traditional attitude of operators who happen to have management responsibilities.

THE FUTURE

While various people are important in evaluating management performance, as final conclusions can be drawn about the future, suitable. Managers must recognize that the goal is in the preservation of profit over the long run. The identification of future possibilities must be based on decisions. Recognizing this basic premise, one of the key changes in the future is the importance for management to plan for the future. To take care of it, the industry will see that the future will be different from the present and the past, and if we are going to survive and prosper we had better consider ourselves with it.

What would people tell about future, which then recognize something is there, how does the continuous help change from it? It is not about the direction of the road, you can tell with it if it is feasible and you are where it is, but you need to know where the road is going to change in the near future, that something will happen and you had better review your strategies.

A knowledge of the history of the printing industry, as well as an understanding of what is currently happening, helps us to recognize a number of significant trends that are taking place and will shape the future of our industry. They include:

Continuous Technological Change

One key aspect of technology, scientific progress, communication is one of the areas in which much of the change will take place. Within the printing industry, the computer has made important developments in competitive programs. It is anticipated that by the early 1980s, computer-driven photo-composition systems, electronic news handling and editing, will be in common use. Later technologies are pre-

needed to be not complicated when applied to printing problems, although they would seem to be harder ones.

Improvements in paper and finishing equipment will lead toward increasing mechanical efficiency, with attendant reductions in labor requirements. Combining computers with such equipment will bring accelerated printing into reality. Bookbinders no longer have to be pained in large quantities and mixed digestives and financial aids. Besides, the lower final stage cost and rapid production schedules will permit publishers to respond to orders as fast. Continuous production machines such as the Transcon book press are a harbinger of things to come.

Technology and Inflation Will Change the Market Demand

Inflation will continue to increase the cost of labor and materials, making automated processes that make more attractive. The increasing cost of paper is more material and the cost of design and shipping the finished product is too expensive. It is undoubtedly technology—computer based systems that will store the printed message, and, upon request, transmit it across telephone or microwave systems that will improve printing equipment will then permit reproduction of only the material needed in the desired quantities.

This is not a prediction but the printed word is dead—has been it. But, we must recognize that while the printed word is a very convenient format information transfer when it is being made it is a very expensive requirement on ships across distances. It is also rather inefficient in space, compared to the more concise available today.

We believe that the new technologies will create as many new products and markets as they will destroy. There is movement there; as printers, should not participate in such opportunities, but instead be prepared to recognize them.

The Importance of New Equipment Will Accelerate the Impact Towards Automation

In all fields of human endeavor, the more complex an area, the more specialized the people in that area must become. As it is in the printing industry, for the complex array of new machines and processes requires a very specialized knowledge to maintain and operate them. With the advent of electronics in composition, with photographs and drawings in letterpress—phototypesetting—the innovations brought on by new tools and processes in high-speed presses and fast web presses in the industry—just to mention a few of the new

specialization, more and more printers are being forced to become specialists.

The specialty press, for instance, also has revolutionized the world of printing. Doing small work press produces about 15,000 impressions per hour. If this press ran only 10 hours per week, exclusive of breakdowns and maintenance, it would print almost a million impressions a week, while an old standard linotype, setting, galley, about 1,000 sheets per hour, would produce only about a tenth as many.

Handling lower and lower decreasing basic specializations also have helped to attract additional volume to individual firms, further increasing the specialization trend. For example, in 1955 Colgate Clark Printers located a volume of a book more than \$10-million. By 1957 cloth printing had become a task for the specialist, and their volume had grown to about \$200 million.

Today, one industry is composed of a vast heterogeneous group—printers of books, forms, labels, packaging operations, sheet metal operations, book manufacturers, periodical specialists, short run operations, amateur printers, color specialists and financial printers, among dozens of other specialists.

For all these little things the customer does all printing on paper, they each have a specialty, and they all tend to be more profitable than printers who do run specialization.

Where all specialization tends to reduce the number of operating variables and, consequently, it simplifies the all-important management control problem. The printer who does not specialize will find that he is producing all kinds of work, ranging from small telephone cards and from very simple to complicated work. He will not have sufficient volume of any one type to permit him to specialize and because every job will tend to be different, he will need a wide range of equipment to handle the broad product mix, with much of his equipment only marginally utilized.

If all specialization, as it tends to become, continues, a much smaller range of equipment is needed, which is usually more fully utilized, while operations are reduced and simpler and the entire company becomes more profitable.

The Third Federal Capital Institute, Automated Operations Which Reduce the Labor Content of the Production Process for Larger Printing Companies:

By the 15,000 printing companies in the country in 1955, it is predicted that there will be only 15,000 in 1965. It indicates that in

main, managers will have to use their spots as a new breed. These individuals themselves operate on the local scene, but the generalists without a specialty is going to find that he will have to be the larger companies. They can afford to apply resources and/or equipment to their product specialty because there are several well-developed substitutes to produce for a specialty.

The Future Operations of the Future Will Require a Very High Degree of Management Control

It is recognized that the future, particularly in this environment, is uncertain. But, as Hirschman said, "The future, however different, can be reached only from the present. The greater the leap into the unknown, the greater the foundation for the future has to be."

If we analyze all the present situation in terms of future progress of Hirschman's said, it follows that logically that progress from any given to future is something that is complicated to manage and management skills will spell the difference between success and failure.

ELIMINATE

The theme of this chapter has been to suggest that the primary manager who is faced with a future and his industry, and his own in the operation of where he is, is a manager and his industry is going.

In examining the future of the industry and identifying the trends that are taking place, we hope to have helped the growing manager develop a perspective of what is happening. With such a perspective, he then can begin to prepare for the future, may Hirschman say it will impact his operations.

It has been established here major points that cannot be ignored. First, change is constant—it has always been so and always will be. Second, managers must concern themselves with planning for the future, and must consider the consequences of changes they can foresee.

The manager who accepts these premises and acts to them intelligently, consistently with his appraisal of his company's current position, will improve his chance for future progress.

One of the ways in which growing managers can prepare for the future is by developing modern management techniques. Modern problems seem to become more complex with each passing day. It is evident that present management principles and techniques have worked in other industries. There is no reason why they cannot work in ours.

PROFESSIONAL MANAGEMENT:

Make It Happen

THE EMERGENCE OF MANAGEMENT

Early managers arose as either successors of craftsmen and artisans whose they are inheriting, men hired to become professional managers after years of their service, men managers become debtors, wondering how they could hope to have to let behind the rest of the business world—what they should just feel too badly. Because management as a profession is really a relatively new development.

Even in World War II, there were very few professional managers and a limited body of management knowledge. The business schools of this period taught accounting, statistics, or specific skills such as constructing housing or boats, and management courses were neither offered nor widespread.

For example, the industrial giant General Electric Company, once known as the Edison Corporation, was a family-run enterprise. In 1911, one of the 1911-12 chief executives, Mr. Charles F. Johnson, wrote to the 1911-12 chief executives, Mr. Charles F. Johnson, to the 1911-12 chief executives to introduce modern management to business into the Edison Corporation, help install Ford's first cost accounting system.

In addition to the 1911-12, in at least one major graduate business school, the most important subject relating to the world was still considered more as a form of an art, just a "tool" for the master plan, and was taught in marketing courses. It had not found its way into the core of the business

and management providing answers where it belongs, and reflect it in action in good (and) schools.

During the last 25 years, management thinking has evolved to the point where schools with a wide range of perspectives have learned on it, and many new and effective techniques have been developed.

Today, as a result of the improved professional management in widespread and whole management in other thought of its relation to business, its practice is far less complex than in that case. Modern management techniques are being introduced into all types of institutions—government, hospitals, schools and colleges—in some just a few.

There are now special schools for teaching hospital administration—public schools professionally trained for strategic hospitals, while private highly growing specialists in the other management's strategic safety, direction and the like.

The state of management management in the printing industry is not unlike that of other industries, although it has been somewhat closer leadership. The trouble for the state is that printing has continued to be fragmented—composed of many small companies—and this has not a permanent on management skills.

Other industries have gone through their consolidation phase and others are doing so. While the U.S. has industries, the food/beverage industry was composed primarily of small, independent growers. Most of the "farms and fops" industry. Since then, the food business moved chain stores toward to large shopping centers, even the small restaurants or specialty stores have been taken over by chains.

Another factor has been that one industry leadership has not been well thought of. While we have a proliferation of industry associations, with a great deal of overlap, no single association is strong enough to pull the others together. What are now along the lines of an ad association, chain or trade associations, first have developed into professional groups. Even the industry trade publications are splintered, and with some exceptions, their editorial content does not meet professional standards.

Even today, unfortunately, most printing schools teach not management, but technical printing and business skills. Industrial engineers and accountants tend to be much better educated than printing school graduates.

If this rather negative assessment of the industry leadership is valid, then the challenge is clear: industry leaders must sit aside their special interests and work together to develop professional standards.

They must recognize that while procedures, equipment, flows, and savings at times all have a place, the industrial world is great deal more.

A Sample of Companies That Suffered

While the industry, in general, has been slow to develop modern management techniques, a number of companies, individually, have done an exceptional job. For instance H. B. Rossiter, the largest company in our industry, has built an enviable record of growth and prosperity, developing its own management philosophy and working hard to attract and keep competent managers. While Rossiter has not taken a high profile position in publishing, its techniques, put into alignment with their corporate indicators that there was well-defined management program, not not inconsistent with the approach outlined in this book.

Stanger's Firm, now a part of Avco, has developed an equally good record, particularly in the area of production management. Before that's Pointers also appears to have worked in product design, both in terms of marketing and plant engineering.

Other companies have pioneered specific areas. Warner's Firm in Baltimore, under the able leadership of the General Electric, was pioneering sophisticated industrial engineering 40 years ago and still does today. John A. McArthur, in Washington, D. C., has done a man's life job of market analysis, working to find that market now looks it is most competitive. While number of other companies around country and in Canada are making excellent strides in developing and applying professional management techniques. Unfortunately, however, these companies are still in the minority, for on the whole industry has been slow to embrace the new management techniques.

The fact that some companies have been successful with new approaches in management illustrates that it can be done. This should be both encouraging and challenging to those who have not yet started their own programs.

RECOMMENDATIONS—WHAT COULD BE DONE?

Management—the study of the correct meaning of order—is an integral part of communications. Yet in those general words like management, professional and techniques, without really knowing what they mean, it's easy to place the "management model" before

we think it is descriptive and because, we think, its meaning is clear and precise. For conversations with our members of managers, and around this subject, indicate anything but a clear understanding of the meaning of the words.

Our book-ended Management Theory, John H. Johnson describes a study in which six textbooks written in the 1930's were analyzed for subject content. The books had been selected because their titles indicated they dealt with the general subject of management. The study concluded that there appears to be a segmentation within the management field and that management is not a single homogeneous field but, rather, has different meanings to persons with different viewpoints.

In many, management means a topic related to the behavioral sciences. In the same words...organizational theory, organizational behavior and human relations...are used; they share a common focus on leadership, communications, motivation and group effectiveness.

On the other hand, there is a group of practitioners and scholars who do not have a background in the behavioral sciences. They tend to define management more in terms of technical skills such as statistics, accounting, marketing or industrial engineering and they think of management in terms of the tasks other management-related fields need to know to perform the tasks.

While a good definition never is the valid purpose of highlighting a specific aspect of management, the operating manager—the practitioner—quickly learns that his must be a technical problem. Thus, consequently, in order to establish a common ground of understanding on which to build the management model system, we will define management in more broad and general terms, giving it a definition that encompasses the viewpoints of both the behavioral scientists and the technicians.

What Management is Not

First of all, management is not the equivalent of recording, controlling, planning or tasks. This thought is particularly applicable to the printing industry, for we intend to concern with a management responsibility that they do not understand and do not fulfill. Since they are accountable only to themselves, they only present the appearance that more than their own self-discipline and intellectual honesty—could things get so bad that they cannot get their bills and produce stop in.

The problem of not managing managers is created in part by the

one in which we select our managers. The management problem often are filled in the face of uncertainty or hostile relationships. Consequently, most able managers are longer than few effectively focused upon hostile problems, yet they do not step aside. All this adds up to an age-old problem that has brought down nations throughout history and which is demanding ever greater resources.

Another source partially, such managers is protection from the risks. This is an excellent way to build a management team of the individuals are recognized, properly trained and prepared for the great responsibility, usually. It is the tradition of education with a good technical background and who are hard working competent people who are education management jobs. Unfortunately, however, they frequently have no formal management training, and no understanding of what management is all about—and no understanding of. They are there to take the job without support or preparation and no mind "with a view." With a few exceptions, their work of hand is a commitment to bureaucracy.

The lesson is clear and simple: Managers must be selected and promoted solely on their ability to manage—not on their the amount of what they own, on their relationship to the boss, on their ability of their staff.

Three-Three Management

Some people do not see the distinction between being a business student & manager. A businessman is someone who operates with the goal of making money. A manager who works for himself is a business figure is a businessman, but someone that he cannot be considered professional manager. Conversely, professional managers work to make non-business related enterprises run hospital-administrators, for instance.

Proctor have often said that running a system is an art—meaning that it is an innate skill that requires and difficult to define. It cannot be quantified and systematized, they stated.

Others give the opposite extreme, proclaiming that such an operation can be reduced to a science—a very precise and systematic knowledge requiring a minimum of skill on the part of the operator. Neither viewpoint is correct, yet both have a measure of validity.

The same conflicting & opposite views on management. Managers must be a positive responsibility to his, medicine or engineering. There is a scientific aspect to it, there is a body of knowledge that must be mastered, and, there are mechanical skills that must be

produced). We can wonder how very confidently about a doctor who has reached his way through experience, ignorance of basic medical knowledge and saying that his approach to medicine was artistic rather than scientific.

On the other hand, the practice of management is clearly not only knowledge and skills, as essential as these are. There must be something more intangible present, something close to an old-time saying: call it judgment—the ability to select knowledge to appropriate action.

Management as a Discipline

The first step in understanding the meaning of management is the recognition that it is a discipline—an organized body of know ledge—in its own right. Bryman, in *Management: A Self-Regulating Practice*, says that “management is a discipline, or at least it is capable of becoming one. It is not just common sense, an undisciplined practice. But, collectively, there is a much deeper body of organized knowledge.”

The Analytical Approach

While it is important that the practitioners create a body of knowledge, management is not simply know ledge. As explained in *Formulating Management* by Joseph L. Aldrich, the chief characteristic of management can be summarized as “the integration of knowledge and analytical systems for to specific situations which require action.”

This definition raises the very important considerations of the analytical aspects of the management function. Perhaps the key distinction that sets apart the professional in any discipline is his ability to gather all pertinent information, reflectively analyze it and develop a proper course of action consistent with his diagnosis. In this manner a doctor diagnoses a patient—illness, prescribes a treatment and monitors the results—using a logical thought process that should not be dissimilar to that meeting a manager attempting to solve a problem.

Responsibility

If management as a discipline means the use of knowledge applied analytically to the solving of problems, it also implies the element of responsibility. This can be used in the sense of authority, but more importantly it refers to the ability to select those particular managerial should be addressing, i.e., the determining of priorities.

Skills are not enough

The literature focuses on identifying the fundamentals of management (i.e. the body of knowledge) and presenting management skills courses explaining, it was felt, how and why individual/firm fundamentals, but these possess critical skills and techniques of management is not enough—he is simply a technician—because he does not have the requisite background to effectively fulfill the role of the manager.

The Ultimate Test: “What Is Happen?”

Whichever the definition, a manager must pass the ultimate test of performance...and it matters little how well a manager transcribes management skills, nor how brilliant analytically he is, if he doesn’t get results. Individual management is summed up in the phrase, “What is happen?”

In defining management it is important to shape the conflict between the theories and the pragmatism. There are questions that are used thinkers to develop theories and push back the frontiers of knowledge but we also need those to implement theory into effective action—which is what management is all about.

The theoretical approach to problem solving, which tends to be somewhat abstract and conceptual, concerned exploring how that which formally known, initially, the theories approaches a problem objectively, but, having established his theory, and his reputation as its follower—at least as the proponent of the theory—he becomes closely identified with it. To a knowledge that his theory, as yet, strongly developed, has a clear would tend to distort or the more personally involved it takes a very long time to handle the knotted problems about the tendency, unfortunately, is for the theorist gradually to lose his objectivity. Eventually he ends up subjectively the finding his work rather than producing its real fruits.

Like the manager, management requires the pragmatic, results-oriented approach. The able manager seeks to understand/define in order to establish cause and effect relationships but he must primarily be concerned with results, not talking about the how/what/why/when if it does not produce the results he wants. “What management must first be built sufficiently, its prime purpose must be practical... a hard-headed, unflinchingly honest appraisal of results, and unobjectionable and appropriate response.

Management Is Attitude

Attitude is a vital characteristic of the professional manager—in sales work the mind is that of all—because the proper attitude will ensure that other conditions are recognized and corrected. This means that a good manager must be tactically flexible, however, a sound mental preparation wherever things are they are, and he is honest with himself and makes no effort to cheat. The manager who is a self-starter and displays a built-in desire to work will recognize and react to the problems confronting him and his company.

All managers are first and foremost human beings, made with feelings, desires, mechanisms, prejudices, pride and fears. No one really likes to face up to unpleasant facts, and many of us dislike—some even hate—change, particularly when it is forced upon us.

From time to time, most of us are guilty of negative thinking, telling to us "it can't be done" or "it will never happen. Therefore, however, the professional manager builds the inner strength and self-confidence that allows him to be his own master again. He stops procrastination, he develops the self-discipline to control his emotions and fears, and he becomes his subaltern. That is not to say that he becomes a cold-hearted machine, but that he develops as a manager who is positive thinking, oriented toward problem solving and highly objective.

A difficult management? Yes. Easy if he attains to perfection? Certainly not. But, it is a goal worth striving for and those who come closest will be the best managers.

Leading People—Not Controlling Them

Finally, management is people, for it is they who manage and are managed. The energy, initiative, integrity and ability of managers is self-evident, whether there is management or mismanagement.

Ernest Berkey, past president nationally, refers to says, "Finally, we know that we will have to go beyond personnel management. We will have to learn to lead people rather than control them."

The point is to achieve and achieve without often by means of principle and by means more, that it should not require repeating, "let time and again, when a company gets into trouble, is maintaining better to your company's relations. This is particularly true in many companies with labor unions. In this situation management needs to think of the worker as "the enemy"—somebody who does not care and is not to lead the company. Admittedly, labor union is the printing, relation

have not always dealt with others and have at times been well motivated. But for the moment, the pressing problem is shared with biological, responsible and skilled work forces—the consensus is that such people respond to far-sighted, honest leadership. Clearly, to answer effectively is not a construction approach to the problem—it may, in fact, create

Constructive action

There are two responses to the leader's leadership: if a manager directly addresses the company's situation, as well as its goals and its problems to the employees, making sure to clarify what the importance of the company's prospects to the employee's income and job security, he generally will get well-rehearsed reactions. It is equally important that the manager have what the employees feel to see, for communication must be a two-way effort.

Another key words regarding meaning that each employee as an individual of, and as equating his, the other party's legitimate needs and objectives; each must be willing to meet the other as he would want to be treated in the same circumstances; in addition, each must be willing to compromise individual goals for the total good and short term goals for the long term good.

A Mutual Investment

Every business is a partnership between the investors who invest the capital and the employees who spend their time, and each is committed to a long-term viable partnership. Partnership is evident if one partner prospers at the expense of the other.

Management is responsible to both groups: shareholders are given legal rights with regard to the information and protection of their property, and investors have and must have indicate that employees should be treated in the same manner, since they have no money there more at stake than the investors. These personal financial security to the human job are similar to others extended to mutual investments the employee, to work hard and to be it, they should not just the employee to assume responsible obligations to them.

While this line of reasoning may sound unbearably naive to some, many companies have been able to build effective employee relations through the recognition of these simple principles. We contend that the fundamental difference between success and failure is in the quality of leadership—their to begin with the attitude of managers toward their employees.

If the ultimate test of management effectiveness is performance, it follows that there should be some means of measuring performance. This is an extremely difficult task which no-one can be expected to attempt objectively and quite honestly. The task is further complicated by the fact that, because of both external influences, sometimes the best management job is done where the quantitative results are the poorest. In other cases, very poor management performance is linked not to exceptionally favourable business conditions. Nevertheless, some means of measurement must be found, since managers' performance must either be judged satisfactory, or steps must be taken to improve it.

In *Management Theory*, John Miles notes that management performance can be separated into two groups, tasks and achievement goals. He states, "The concepts of task refers to products, products, and services produced by an organization, and task goals refer to these matters. Achievement, on the other hand, refers to the performance of all the organization as an ongoing entity."

The Importance of Time

Miles's quote gives the question of time and its importance the last of the chapters, which always must remember that it is possible to gain short term benefits at the expense of the future. Therefore, both the short-term and the long term must be considered when making a decision; management must be evaluated within the context of both.

John Miles notes the point this way:

"If management problems is not solved if immediate profits are purchased by endangering the long run health, perhaps even the survival of the company, is management/leadership irresponsible if it takes actions that put the the value of a position above."

In short, we must be carefully taking in order to have a future, but we must also be able to perform when the future is at hand. Achievement must stand the hard test of time; a business must survive to prosper, even when the manager is gone, and he is to be considered a successful manager.

Five kinds of innovation

We are all familiar with stories of the great man who was a great idea very profitable, only to have it collapse when he returns due

task structure is evidenced inappreciable managerial activities leading to balance the present and the future. In order to pass this ultimate test, there must be management activities, which in terms of current performance, secure effective effects on management activities, leading staff development.

In addition to management activities, there must be product services. The product or process has an indefinite economic life. Technological change tends to shorten life spans for products as well as processes. Management must constantly address itself to what it is going to be making, controlling in the future, and how it is to be accomplished. There it must make the business's projections.

For many years, the evidence seems to suggest that this is one test that is failing many managers in the printing industry. The studies of the Printing Industries of America consistently show that the most profitable firms have the lowest depreciation rates, demonstrating that they are not buying as much new equipment as the less profitable firms, and that they are producing "more products with fewer plants."

The message is simple: if the printing manager wants to stay in business tomorrow, he must look at tomorrow's technology, analyze it, and analyze their effect upon the marketplace and develop plans to effectively work them into his operation.

Nobody will pretend for a minute that this is an easy task. Sometimes the "right" answer becomes obvious when a few someone has had the vision to try an idea and prove it worth. When people will make mistakes objectively try to find it better than, but that there are always there should not keep trying.

The answer to the problem lies in innovation—the manager's ability to approach problems positively with creative, searching for a solution, or a new idea is better possible, or at least the one big adaptation of somebody else's idea.

Evaluating Results

Evaluating management performance is simplified if the specific tasks of a manager are defined. As a matter of fact, this is one of the more important reasons many organizations have formal job descriptions and job plans, but they spell out exactly the responsibilities and duties of the job, and, in some instances, how they are to be performed.

A general job description of a manager should deal with tasks or functions, as outlined in the *Elements of Management* by Joseph L.

Management encompasses and directs various functions of management:

1. **Decision Making**—the process by which a course of action is consciously chosen from possible alternatives for the purpose of achieving selected results.
2. **Organizing**—the process by which the structure and allocation of jobs is determined.
3. **Staffing**—the process by which managers select, train, promote and retain subordinates.
4. **Planning**—the process by which a manager anticipates the future and develops alternative courses of action.
5. **Controlling**—the process that measures current performance and guides it toward some predetermined goal.
6. **Communicating**—the process by which decisions transmitted to others for the purpose of achieving a desired result.
7. **Evaluating**—the process by which the current performance of subordinates is guided toward various goals.

Operational Goals

In the final analysis, management performance must be measured in terms of how well a business meets its operating goals over an extended period of time. Not surprisingly, business literature often is filled with agreement as to what these goals should be. The consensus that the most important goal of management is being in the right business at the right time. Other goals may be summarized in two words: efficiency and effectiveness. The first asks the question, "How can we do this better?" The second happens on "doing the right things." One business idiom says little to be achieved in doing the wrong things. Would efficiency help the buggie whip manufacturer?

Size and the Management Task

While size may not change the description of a manager's job, rather essentially the same task must be performed in a small or large company. It will affect the techniques of management, and the difficulty of the various tasks. There are certain advantages in managing a small company—and certain disadvantages.

Typically, the manager of a small company will be more available

than those of larger companies. It must concentrate, and does not have as large a pool of specialists drawn upon when, too, he directs less efficient capital resources, so that the margin for error is usually much slimmer. For instance, how many companies could afford to produce anything? A small company does not have the product diversification of the large companies, making it more vulnerable to the vicissitudes of its narrow product line.

On the other hand, the small manager does not have the coordination and coordination problems of the large manager; he does, he needs about five but a young one, back physically and psychologically. This provides perhaps the major advantage of the small business manager—flexibility. Unlike the business man of the large firm, he can make decisions and get things moving much faster. Significantly interpreted, he can maintain personal contact with both customers and employees. The need for professional management training and concepts is important regardless of the size of the firm (since smaller firm managers have a tendency to think nonprofessionally). "Big-company style" not applicable is true. This is a major growth and strength. While the techniques used may vary in detail, the need for quality total management approach is as good in the small company as in the large one.

Chief Executive Officer: Manager for Change

The role played by the chief executive officer of a company is unique for a very special reason—this is where the "ultimate responsibility" for the success of the business lies. Whether the business does or not—is determined largely by the CEO. It is his determination of the entire business; the process in which he does decide, and he is accountable to the stockholders for their investment, to the employees for their livelihood, to the customers for the product and to society for the extent that the efforts of the business are an asset to the community.

The success of his efforts can be measured in three ways: (1) the financial success of the company; (2) the degree to which he fulfills the expectations of various stake holders, customers, employees, and the community, in general; and (3) his ability to perpetuate itself and create new ideas.

A successful CEO, who must be a leader of people, must inspire trust and confidence and be able to motivate and to organize his subordinates—the selection of whom will reflect his own values.

However, there is a practical problem, the inherent tendency of delegating potential and delegating responsibility.

The role of the CEO in introducing professional management standards to his organization is particularly critical. If he doesn't maintain a high performance standard for himself, there is no way for his lieutenants or high levels of performance from his subordinates.

The CEO, who should be principal for change (rather than an architect) must create a climate in which his subordinates manage—not work with enthusiasm and initiative, giving them responsibility and encouragement and holding them accountable for results. We have seen many instances where subordinates had negatively the apparent indifference of the top man. When this happens, there can be very little real progress in terms of running the company ahead.

If the management of a company is going to be enthusiastic about the concept of professional management and is going to make a serious effort to develop better capabilities, the management must start with the top man. He is the leader-cum-core characteristic of his business performance.

14. Learning there is the tendency of the Eisenhower management, the idea that only the top man, and especially the top manager—knows what the business is all about. He commands himself with responsibilities and checks and makes critical significant decisions himself although this is not professional management if rather, basically described the way in which many political organizations run.

DISCUSSION

Business plus management has merged and profession is its own right with a body of knowledge that can be approached systematically.

Almost all management is performance—getting the job done, making things happen, although results are the important thing, they cannot be measured solely by the client run. Management must be able to generate positive index but at the same time progress should be equally effectively in the future.

In addition to his knowledge and approach, the professional manager is marked by his attitude as a positive thinking, intellectually honest individual who works out and solves problems, time-managing involves dealing with people, the effective manager must be a leader, able to communicate with and motivate his subordinates.

The management job may be defined by the tasks that are performed. Evaluation of management performance requires a knowledge of these tasks and the ability to quantify results.

The role of the Chief Executive Officer is particularly critical in the successful adoption of professional management by any company. Subordinates naturally will not be accepting that top management does not want them to be. The manager who seriously contemplates the introduction of a management control system should honestly evaluate himself and his associates before if there are problems in a professional manner. If not, the job must begin with changing that condition.

The message, therefore, is simple: There is such a thing as professional management and it does make a difference.

UNDERSTANDING THE CONTROL PROBLEM

Managing Change

To define the design and operation control system, it is necessary to understand the basic nature of the control problem—namely, managing change and reducing the demand of risk.

The concept of control implies a dynamic situation—one subject to change—rather than a static one. It holds true the instance, is not going away fast and is not changing very rapidly. Even if it does change slightly, the consequences will not be severe.

In contrast, real business situations present very dynamic conditions. An example of this is the value volume of a printing plant, which can vary widely from month to month. The consequences of low volume can be disastrous in terms of operating losses. On the other hand, excessive plant volume is also very profitable in the short run, but creates customer relations problems which can lead to long-term effects. Whether a given volume, the product can be very hard to reproduce (compatible with the time capabilities and using all of the equipment) to very poor (not compatible with the time capabilities or overloading some system while leaving others idle).

What Makes Things Happen?

Actual performance doesn't just happen; it is the result of the cumulative effect of a number of variables. In the control value volume and product mix, there are four, and it is essential to know the cumulative result of the time, value volume, pricing levels. The operations of the firm, the economy (demand and supply) and collection.

such dynamic situation, we can watch the realization of Murphy's Law of Random Foreboding: "If it is chosen, things will go from bad to worse." Another law—McNell's—says, "Murphy's Law is the optimum."

Murphy's Law, applied to the volume management problem of a printing plant, tells us that if left to chance, i.e., unmanaged—the variables will not produce the most profitable volume level and product mix.

There are originally two business situations in which the variables can be controlled under perfect control. But one of the key distances, those between the professional and the ineffective manager is the degree of control they learn to exercise. The professional manager views change as an aspect of the problem, while things not seen by Murphy happen only to the ineffective manager. Control is largely the result of taking appropriate action. When we are positive, and don't take sudden change advice about, we become the do-it-yourself kind of "best bet." That best is not accepted by the professional manager.

The main objective of a management control system is to identify the variables that affect results, and to manage the variables so as to produce the best possible results under the prevailing conditions.

THE PERSPECTIVE OF A MANAGEMENT CONTROL SYSTEM

Let's begin the task of taking theory into practice by placing the management control system in perspective.

The positions and the variables that manage have very complex interrelationships which, in collection, must be brought together into a systematic approach to managing the interrelationships—a management control system.

In any business, the three volume of activity at all levels creates a statistical system of functions, ranging from the minor to the significant. A control system will not make these decisions but it manages. But it still requires decisions making by getting the most and better information on a timely basis, arranged in a logical situation.

The issue is not whether decisions will be made. They will be, it will be reactions, but no decision is a decision. The issue is who is going to make the decision—will it going below made at the management, by the person in the position to make the best decision? All decisions should not, and cannot be made at the top. However, higher levels should release lower level decisions and bring smaller at lower levels and what the results are.

Another aspect of the problem is how the decisionmaker is to make —be the old “out of the pipe” approach, using subjective estimates, or more informed and objective methods based on sound information and a solid evaluation of the alternatives. A management control system does not turn a poor manager into a good one, but, as we shall see, it does help a good manager become better.

In short, even a manager needs the tools to provide him with the systems and timely information necessary to permit him to make good decisions and to effectively implement those decisions. The job of the management control system is to provide this information.

Planning in the First Step

In creating management control, it is necessary, above all, to develop sound plans.

Planning is the foundation of control because it establishes direction and goals. Despite its importance, however, many managers do not undertake the planning task seriously. Some do not even try to plan—either because of ignorance or because they find it difficult and do not have the self-discipline to make the effort. At the same time, other managers are so busy reacting to daily problems—that the result of poor planning—that they cannot find the time to stand back, take a look at their operations and think about the future. These managers are sometimes called “firefighters” because they spend their time running around reacting to problems, desperately putting out fires. Apparently, they do not believe the old adage: “the time to plan, plan to fail.”

Conscientious planning pays high dividends; the first of which usually is an important knowledge of the present and near future.

An intelligent manager, aware that forecasts must be based on hard data, will realize that he must begin by understanding what has been happening, and why. To base policies, actions, decisions, it is necessary to know the current level of sales. Current detailed data on customers, a manager can begin to examine their needs for doing business with his company, whether or not they are satisfied or better or not they intend to continue, whether their needs are growing or shrinking. This will provide a lead for the existing customer base, which when combined with an analysis of any potential for new customers should lead to conclusions about the needed size and the pattern's shape of it.

Other competitive intelligence about competitors (the information that can be available in developing sound long-term market plans) and

around operating rules, procedures, as well as setting as a base for evaluating rules and getting effects.

Even if the planning effort is not conducted through informed market plans and rules procedures, it has a beneficial impact on the decision-making of managers, who develop the information simply because it forces the manager to look at the future, to make some assumptions about it, and to begin to prepare for it.

Planning provides one to knowled resources requirements, knowledge volume, production, volume creates the need for equipment, personnel and capital funds, and unless all resources are in harmony with proposed volume, the plan cannot be feasible. Finding this out beforehand is much cheaper than discovering it after one is committed and cannot turn back.

Finally, planning does serve as a reference point, a base of measurement against which to evaluate actual performance.

A plan is made up of many parts, and if each individual is preoccupied, the final result—the goal—is ignored. Since the whole is the sum of the parts, working backwards if the goal is not met, something has gone wrong with one of the parts, knowing where the actual deviation from the plan exists serves already the performance and initiate appropriate action. Thus managers will find managing by exception.

THE TOTAL SYSTEMS APPROACH

Any planning manager will readily agree that there are many related problems in a planning plant, following them, and managing their interrelationships adds up to a very complex related problem. Undoubtedly, there are the spots of our progress, solutions are never lost they will be in many forms, and will not be mutually available from company to company.

When buying related include among others, organization, equipment, plant layout, product mix and pricing. Some companies will find that in some small size, systems involved in all of these areas, but that are not in, responsible for anything, either companies or the defined responsibilities of individuals or management personnel, resulting in need to hire or train.

The nature of total problems is almost endless. It is a totally impossible to compare effectively using, whether or not one equipment. Furthermore, nothing will become effective more than a plan

plant based on deeper interlocking. Ultimately, an incompatible product mix, inadequate volume, and price pricing all will add up to financial disaster.

Now, when a manager begins to find the answers to these and other questions? The answer is, because a planned attempt at a solution and a total systems approach—yes, effective philosophy, but not that, when repeatedly mentioned. To many managers, the philosophical nature connotations of superlativity. It is, they think, just another computer "buzzword." Others find it because of studies they have heard of (perhaps failures, which usually were questions where they anticipated what their own might). Perhaps most often result is how a computer answer is consistent or not to human systems and particularly management to "begin his." He may of this term, he, in truth, is usually aware he begins "without adequate preparation" he will still use, a systems-like system—most studies, and he that it leads him.

We believe in the total systems approach to quite other tasks, why? First of all, a company is the composition of the parts and whole of its more smaller parts—parts which, in turn, all have complex interrelationships with each other. A change in price levels, for instance, will normally result in a change in volume. The management of the whole requires the control of the parts, but the reverse is not true. Contrary to the belief of some executives, who do not want to be bothered with details and want just the "big picture," the parts must be managed by controlling the whole.

The total systems approach involves building a management model system that identifies the parts and their interrelationships, and also develops a logical picture of what is happening—and why. The function is a total planning program to determine what should be happening, to its simplest terms, in effect, the total systems approach "tells management what it should be doing" and then reflects "how it did."

The information developed by the total system is synthesized in a single data base—a pool of information that is disseminated to managers when needed and, because of its organized structure, may be "managed" and "exploited" for distribution in a number of forms for many different applications.

All of this coincides sharply with the traditional approach to management, which is based on a logical basis of short- or long-term planning. At its core, this system consisted of two major components: levels of demand for two purposes, with income statements drawn independently, sometimes only annually. The profit figure comes in a

response, there may be no such thing as a business short showing the firm's financial condition.

Surprisingly, perhaps, but many printers, even those running fairly large companies, do not have management oriented systems which more sophisticated firms do. These may prepare accurate information regularly, but many do not do such a routine job of preparing volume, understanding capacity, planning expenses and showing profits. Even if they have sophisticated record keeping the results are at the back of several walls the result that the figures get out coincided with the books. Because the books rarely do not reflect an actual volume cost expense, they can be very inaccurate.

In recent years, many companies have made great strides in developing management oriented systems that overcome the problems and that provide periodic planning information. These firms have found that translation of the total system approach to management-oriented, which was simple, substantially reduces management input efforts.

How Large Must a Company Be?

A total system approach is applicable to any company, regardless of size. Smaller companies will need a less sophisticated system because they have less activity and shorter lines of communication, and responsibilities concentrated in a few managers who "wear a number of hats." Nevertheless, the principles remain the same. Although larger companies have greater institutionalization and control problems, information requirements constantly do not change.

However each job in the printing industry, tends to be custom designed we have the direct opposite of the distribution—in a bulk cell who are identical and go through one process with a few very simple operations. On the contrary, in the printing industry, every job goes through a number of processes, each involving a number of different operations with varying degrees of difficulty.

Admittedly, it is difficult to measure or even manufacturing manager than that his ideal. But, all operations involve increased cost scale at which the ideal is the best. Even in a small printing plant, a typical ideal situation occurs at a single moment in time. Although one factor of the system will be identical or repetitive, all of the others will have infinite interrelationships.

This is why the total system approach is so applicable in the printing industry. Management must control its operations, but where there are complexity in distribution management interrelationships of pricing, volume, capacity, expense and utilization, and total production is

profit. A well-coordinated management control system, embracing the total systems approach, helps management to understand and use that basic knowledge.

774. Abstracts—W. V. Katz [Boston].

Think of the system, a model designed with specific capabilities in terms of range, speed, reliability, responsiveness and nature and amount of data. To be effective, the design must be consistent with the plant's intended purpose, corresponding to engineering concepts. Elsewhere that are likewise in their validity.

The plant represents management, where responsibility and decisions-making are centered. The output is the control system, where information is received, stored and communicated. The instrument panel is a large data base, and the control mechanisms are the means by which management implements its decisions.

The plant's control panel summarizes data on the status or performance of many subsystems, leading from inputs, response, feedback, noise, speed and reliability. Some of the information is automatically compared within the control mechanisms to a pre-established norm or standard. If a deviation beyond acceptable tolerance exists, an automatic signal may be given to the plant and, in some instances, corrective action may be taken.

The value and performance of the concept is dependent upon the qualitative performance of all systems—the sum total of the parts. The failure of one critical system can negate the proper performance of all of the others. The engineer would want to fit in an airplane that was not built and operated within the total systems concept. The interdependence of factors can be pertinent to those events but their quality.

The same might be said for a printing company. I have a good manager must be like a producer. As a planner, he must decide to see how his people are functioning, how his employees are performing, where he is making money and where he is losing it. A manager who does not know how his business runs "inside" it can still be performing, but it is while that is not of control. It would be as a reflection more without the knowing it.

Finding A. Beggert [St. Louis].

Thinking of such a comprehensive system may appear to be too hard to come and more discouraging. There is a lot more little experience with such concepts. But, what it takes years to build and refine a total

management control system, the initial steps are not difficult. As the saying goes, "You know where you're going, you know," and so it is with management control systems.

A good first step is to develop an organization chart, and assign responsibilities. This establishes immediately the development of control charts of accounts, profit centers and operations charts. Next the ability to measure past data, whether on a large scale or time-consuming, is a good start to build, and a checkered controlling system—which will develop information leading to job profitability analysis and to a formal planning system. The logical next step is to begin budgeting—while all the antecedent benefits of planning.

Here is noted, however, that there is no single place to begin. To begin where best—that is what is important. Progressed also speed is important, but recognize that you must start from where you are and move logically and orderly towards a level of understanding to the next. The system will advance the management team gives a further understanding and as it moves with the previous goals of the system.

Going back to the analogy of the airplane, the important point is, first, the value of a systematic approach in solving the control problem and, second, the control must be made to make managers realize that taking a haphazard, patchwork approach to the problem, just as an airplane will not fly with all its components are not functioning, or with a business leader or with all its elements are not properly coordinated. There is total system approach to management control, based on sound principles, and recognizing the many, various interrelationships of the various elements of planning, is the only logical path to a "smooth flight" to business.

CONTROL IS ACHIEVED THROUGH THE USE OF CONTROLS

Controls are not the Place of Control:

The definition of control is direction, a term that deals with expectations—that is the future. Considerable is the current goal and how to do with what ought to be.

"Controls" are the means by which activities and changes are measured. Therefore, they deal with facts, with records of the past. Analytical in nature, they provide the information which helps management what was and is.

When the manager prepares his plans and understands their relationship to the execution phase of his operations, he is still left with the task of developing control techniques and controls. The importance of controls is included in the statement:

"What we measure, we do not manage."

In the chapter on control techniques, it is important to keep in mind the following characteristics:

Controls are not Always Objective and Neutral

In a business, controls must reflect objectives, goals or values, i.e., the plan. These are determined by people, but people do not always succeed in their efforts to be fair-minded and objective. Frequently, some element of subjectivity...of bias...will creep into the controls. Unless this is recognized and adjusted for, the controls themselves may become a negative instead of a positive influence on the operation.

The failure of controls has not only to do with the problem of subjectivity, but with the very great possibility that the basis upon which controls are constructed is incorrect. In either case, controls are a form of measurement because inaccurate. Therefore, any deviation from the control figure may be explained by inaccurate controls—not by poor performance.

The solution to the problem described here is to make controls accurate as possible and also that people use them critically. When deviations occur, you should automatically question the measurement, that is, be absolutely certain that the control figures are correct.

Remember, measuring performance is not the same as measuring physical phenomena. The speed of light is constant totally independent of what and how you measure it changes neither the speed nor its. However, when measuring performance, people are measuring the collection of people, and the goals we set and the manner in which they are measured will affect results.

Properly administered controls can and should have a very positive effect on results. When improperly administered, when they are not realistic or used to harass managers—they can have a very negative effect. Indeed, will the effect be neutral?

Controls Must be Fair and Flexible

A manager must be much concerned with what is happening, getting, or he can compare that to what should be happening. If the

unquantifiable, measurable. It must meet two logical and appropriate matters: a way that might best be called a problem-solving and solving attitude; the righting, want to the knowledge of other people would called to the situation, by the created situation.

If the attitude does not already include this attitude, or if the manager does not want to share, share the attitude system, include them at that point.

Criteria for Measurable and Non-Measurable Results

Relatively easy to develop are criteria for measurable results, such as the number of clients per hour from a press, the number of people in the crowd, the number of letters mailed, the cost of a job, etc. For the other kinds, we must recognize that many of the most important results are not measurable in precise quantitative terms. For instance, what is graphic art quality? The correct answer to the question is that it is whatever the customer thinks it is. If he disagrees with you, you will probably lose him. In the third category, there have, you must place him at this time, as well as in many other ways. Add it there and up, to an immeasurable factor—the customer's attitude toward your firm.

A company will never be any better than its employees, so employees attitudes have special significant importance factor. Great companies consistently attract and hold outstanding people—and make them happy and loyal while lesser companies make a very high turnover, usually among the more capable people who they do better opportunities. The principle is: if employees attitudes can be measured by statistics such as the employee turnover rate, that, there factor. How do you measure this attitude factor if it is related to a high turnover rate? For answer, however only from and be sensitive to problems and changing attitudes. By reacting to them as they arise, you can prevent high turnover. The control system must prompt managers to be sensitive to this type of area, as well as to the more measurable areas of performance.

Seven Specifications

For control system, Peter Drucker specifies the following specifications:

- measurable
- measurable
- appropriate

- organized
- timely
- simple
- unbiased

The significance of these may be summarized as follows: First, the controls must address themselves to the significant or meaningful events. This means that the cost of the control system itself must be controlled. Obviously, you cannot spend a dollar to have 10 cents. In addition, the manager's attention to significant events will be absorbed by a mass of data on less important events if their importance to the total result is not protected.

The measurements must be designed to highlight the significant events, rather than. For instance, in the growing business, change percentages of volume/inflation caused by very low amounts. Overall figures may be misleading if the picture of these low amounts is not clearly measured.

Frequently we hear that printers who usually say they produce 1,000,000 orders a month and cannot afford to overproduce. They are not. But, perhaps 99% of the orders amount for 99 percent of the business and they demand to be individually noted, the others can be grouped as product discounts so that the costs of groups of smaller orders can be accumulated.

Another point Kravitz makes is, to be sure it, "the danger of false consciousness." He also suggests that the measure of measurement is inherent in the nature of the event and the manner in which it is measured. Using any measurement not understood demands when there is a potential misreading in the measurement. First 20 percent may be very misleading, as well as necessary.

In the words of Professor Adams/Cummings of the College of Business, University of Illinois, "consciousness is the beginning of false minds."

It is much better to work for reasonably accurate controls that are clearly information that is available when you can tell you it than to get more precise figures that make don't add to your knowledge and you are likely they have lost their effectiveness.

While simplicity is a virtue, it is difficult to design simple controls which are appropriate for complex problems. When viewed in its entirety, a complex problem can be broken simplified by dividing it into its logical components.

Finally, to come to the question of speed, when this information, collected and trigger appropriate action and the information get

to the person who is responsible for the action. In any control system, a specified something and a controlling administrative response is shown at the top. For instance, a personnel needs to know he should not at all times the performance of his group so that the task take appropriate action immediately as required. His important needs therefore, the most part of the process has identified with the frequency (perhaps hourly or twice a day), and the plant manager certainly would like to have daily efficiency results for all of his departments. On a weekly basis, top management would consider overall plant efficiency.

THE SEVEN STEPS OF CONTROL

The steps of a control system involve moving logically through nine specific steps which maintain the essential elements...all of which are applicable without regard to the nature of the control problem being addressed.

If a manager sometimes understands and utilizes these elements as the basis for his analysis of a control problem, he will find his control system control into the most complex situations.

1. Identification of Significant Events...

"What is happening that is significant?"

Activity is composed of many different happenings, with the most identifiable part of activity called an "event." Because some events are more influential than others in determining the eventual outcome of the total activity, the first step in developing a specific control system is to identify the most important events.

2. Events: Event of Control Points...

"Where and when is the significant event? When (date)?"

Control points may be defined as certain places or periods of time during which the possibility exists of significant change. In chronological time, control activities can be appropriately located during or after significant events.

Those that periods are intended to prevent errors or poor performance. Those that are used during the event are usually meant to detect the initial stages of deviation so that the operators

and make immediate adjustments, and those that follow the great abstract issues or problems.

3. Identifying Control Points—

"What is the control point to be measured?"

The first and often the most difficult step in developing a monitoring capability is defining a unit of measure. Because abstract or qualitative information is very difficult to produce, absolute or quantitative values should be used, such as dollars, number of sheets or copies, number of people, and minutes.

If absolute, quantitative values are not practical, then relative values, such as rates, indices, temperature readings, direction/orientations, or degree of difficulty, should be used.

4. Identifying Responsibility—

"Who (or what) is responsible for monitoring?"

Of the two types of monitoring—mechanical and human—the first step, such as by a computer or an electronically operated system, often is the most accurate and economical. Ultimately, however, any automated device is subject to human control. Therefore, the responsibility must always be assigned to a human, either in the absence of automated technology or at positions the initial monitoring of the process technology point could be responsible for physically monitoring. He must, in other words, be sure that the line is working.

In smaller companies, top management can monitor many operating control points and know firsthand at all times what is happening. In large businesses, where communications channels are more complex, this may not be possible. Each job title has a limited span of control, and his monitoring responsibility must not be inconsistent with it.

Normally, the best decision will be the one made at the lowest possible level—because that is where the most facts are known. If proper planning has taken place and personnel are adequately trained, delegated decisions will be most appropriate and timely. The control system, through its reports, should provide the upper layers of management to evaluate results and step in whenever necessary.

5. The Data Flow—

"How summarized information is to be handled?"

"Data flow" is just a fancy phrase for the information provided by the monitoring process.

Under stated, information neither requested, classified/undisclosed for reasons and future relevance. In order to build an effective data base and control the costs of growth, standards, one must have a good knowledge of who will need to know what, and where. The key element of the base is the coding structure of the data.

Many people have the mistaken notion that a data base must be computer oriented. While a computer frequently is the best efficient way to deal with data, any form of data handling, beginning with pencil and paper, or the existing machine, can be used to build a good base.

4. The Standard or Metric...

"What constitutes satisfactory performance?"

How relevant has been what is used? Is it independent, or is there risk "if that data is wrong" is it good? Is it half information action, anyway? In order to develop this kind of analysis, there must be some kind of pre-determined standard or comparison of relevance, or just against which action can be compared.

Of course, the standard can be much more, serving as a diagnostic or goal and bringing into play all the psychological elements involved in the achievement effort. Standards can be used as a sort of checklist to measure achievement by tangible items.

Standards are the result of the planning process and may be developed from historic performance records accumulated on the data base. They also are available from general industry sources. Printing, National of America PAB Program, National Association of Business, and Anthropology, Language Arts National Foundation and their manufacturers. The base standards are those suggested for a specific selected engineering technique in a specific place for a particular situation.

7. Comparison of Actual to Standards...

"How did we do?"

Because this is the first step in identifying problems it is critical to the overall control process. A construction manager now asking one person for the question, doesn't will find out what is happening and always will indicate what was expected. Extremely important in this step is the right attitude for the fact the following comparison is not standard, and, being made so, is understood why one knew about the problem in.

A good control system will provide for the comparison standards

of all data reported from school performance, with meeting or not meeting problems both rate standards and goals. If the net result of all information converges with standards, management will know it's getting paid for the work it produces, at levels consistent with cost.

8. The Evaluation:-

"What is the Progress?"

As long as the comparison is favorable, a manager can live comfortably with the performance. But when there is an unfavorable comparison—a deviation from standards—he must find out what went wrong. Without a complete understanding of the nature of the problem, he will find it difficult to come up with a solution. Depending on the problem's complexity and the skill and experience of the manager, the analysis may take no time, minutes, hours or days.

Suppose the standardized performance probably an output of 10000 performance is low, but each individual is as good as 10. To find out what went wrong, it would be necessary to check out financial condition, production planning and price maintenance. Then, if all of these factors checked out, a running problem would be indicated perhaps with the ink, stock or financial solution. Or, was the pressure just feeling? That too, could have been the problem.

9. Action... "What is solution?"

After getting to the root of the problem and finding its cause, the manager must examine his alternatives and move to a solution, using his time, skill and resources. Above all, he must act! For a manager who has all the facts and data but not is at least a procrastinator. Regardless of how important the required action is, the action must be complete and... if the individual in mechanical company is to meet its performance goals.

If evaluation indicates that a given standardized measurable problem, management must ensure that it does not occur in the future. If the given needs thing, it should be fixed. If undesirable procedures were inadequate, they should be improved. If the pressure was not properly trained or motivated, this should be corrected. If materials caused the problem, supplier's experts should be notified and asked about what can be done. The point is that regardless of the action taken, something must be done to correct the situation.

THE CONTROL CYCLE

The concept of plan, monitor and evaluate creates an ongoing cycle, which is depicted in Figure 1.1.

As long as a business continues to operate, its life cycle continues—individually, collectively—with us and.

The cycle, we begin nothing more than point in time at which we are—NOW. Thus, we begin with our existing level of knowledge or understanding of the data base. This is the knowledge as a starting point. We can begin to plan for the future.

Understanding the Data Base

Planning must begin with an understanding of the data base. It should be a more transparent future changes. If, for example, a planner knows that unemployment is going to be reduced significantly as new stores of equipment, he should anticipate the changes in his experience effectively and quickly. The fact is a big mistake in the handling of data base. Unstable type of change that must be understood. The data is a good base of factual data for forecasting.

Changes are more visible and stable changes—things that are likely to change. The effect of inflation is an example of this. We know that we will have to make more and more, but the question is, how much? The planner will have to make an informed estimate. There will have to be a way to reflect the cost increase. What effect will this have on his estimate? The planner must recognize all of the implications and then draw his conclusions to make his forecasts.

Separating the Data from the Plan

At this point the planner must project things that he is plan to make happen, separate that may be called forecasting. If, however, a new piece has been installed, the planner may project an estimate in value, but his projection must be supported by the sales plan or whether the goal—and by the market potential.

Another area is the knowledge in forecasting in the planning process. It is difficult to be making several potential equipment and selling, otherwise goals, the planning process is an estimate goal.

Because they cannot predict with certainty and are afraid of being wrong, many managers are reluctant to commit themselves and give up on planning at this point, thus "separating the data from the plan."

After the planner has a tentative plan, he must evaluate his

INPUT

CONTROL
SYSTEM

THE CONTROL CYCLE

FEEDBACK

PLANNING



Fig. 1.1. The Control Cycle

company. If, for example, he has projected a major increase in volume, he must verify that enough resources are available on the proper equipment. He may have to plan a third shift, order a line of new plants or radically increase his paper inventory. Nothing is worse for the long-term image of a company than to add volume which cannot be delivered on time.

During a period of growth, additional capital with which to carry inventories and extend credit must be found. Management's growth need to be expanded, which means hiring or hiring, in other words, any projected increase in volume must be weighed against a basis of company requirements—market potential, sales efforts and cost, availability of raw materials, labor and materials, management and capital.

Changing the Plan

Execution of resources leads to a testing of the feasibility of the original plan. If the plan does not appear feasible, it must be modified. For instance, if gross receipts cannot be expanded the projected volume must be cut back to the capacity limitations factor that will, otherwise, offset marketing efforts and possibly result in the loss of an upward revision of price.

Though the plan may appear feasible, the planners must recognize its flexibility and the possibility of its failure. By understanding the potential "cut spots" in the company's plan, which the plan is built, the likelihood of its failure and its potential impact may be minimized.

An element in the planning process, it may help answer "how you perform." If, for example, a producer's current volume is \$1,000,000, he may project next year's volume at the same level or the low estimate. On the high side, he may think he can handle an increase with the probable level at \$1,500,000. By developing possible plans for all three levels, he can project the effect on resource requirements and profits for each. If he thinks the plan might be better and one of the alternatives, he can develop appropriate contingency plans.

Managing the Future

Current profits are likely to be determined by production's decisions before equipment, he will continue to be later a more direct measure of profit will be shaped by future decisions. Planning requires that management look into the future and develop a feel for it. It calls for anticipating an awareness of what might and might not happen, plan

must be made to handle contingencies. A successful management plans to manage the future—and the past.

Future planning generally involves requiring the planners to generate alternative courses of action. Third and even is an actual agreement that can be only tentative, but no paper if costs (like more than three) the generating the requirements for resources and be establishing the possible details, a manager can make educated judgments about the risks and consequences. If the potential return does not justify the risks, or if the consequences appear too risks, the plan may be discarded or discarded completely before any commitment is made.

The same approach example involves expansion and the availability of capital to finance it. Failure to obtain enough capital is a reasonable investment because it is "undercapitalization" and is a common cause of business failure, printing is no exception. If a new piece of equipment, costing \$20,000, generates \$10,000 each annually of net cash and \$10,000 at two shifts, should the proper financial planning? If interest rate, exclusion of tax considerations, is in process, the first year interest will be \$2,000 leaving \$8,000 and \$18,000 for third investment, respectively, a substantial loss the cash flow. A conservative approach would be a commitment to repay the \$20,000 in years, leaving that the debt could be covered even if the projected only one shift. The entrepreneur might agree to a two and one-half year expansion, creating an expanding, two shifts, but he is intelligently financing his risks and leaving his management when the money may be that there are the only terms on which money is available, and that it is in this plan or nothing—a rationale to which many have responded. While a few have responded, many more who have accepted these odds have failed.

The next step in planning is to make a decision, which simply means setting up a course of action with an objective, an intention point, against which all results will be measured. The manager who wants to take appropriate corrective action always must know his position relative to his plan.

The final step in the planning process is implementation, tactical planning to execute the overall plan. This may consist simply of a loading system if the changes are minimal. However, if there are significant, such as major plant expansion, implementation might include installation of new equipment, changing the structure, loading of personnel, setting standards of performance, developing performance standards, and establishing selling points and beginning the marketing effort.

Execution

Executing the work plan—the execution—now comes in to do things that generate advantage in a work plan (provides a basis of measurement, a criteria or yardstick against which actual performance can be measured, shows off the manager's work done when he wants to go and how far he wants to get there).

A good analogy is that of the behaviour of a ship. Before leaving port, the crew must be judged seaworthy and given orders with adequate resources—fuel, food, water, etc.—instructions to set out. The behaviour is given a heading consistent with the objectives, but there are about a dozen more that in reality, make the manager's things and measurements constantly for the effect of wind and tide, which work him slightly off course, so he can handle and steering mechanism being him back.

The point is like the behaviour. Beginning with a profit goal, his means, headings or charts are the components of production—resources, inputs and efficiency—all pointed to reach the targeted goal—the profit. Equipped with modern machines, skilled labour and adequate capital, he is strong enough to withstand the economic storm, which he sails through the port, he knows his position relative to the plan at all times.

In the execution phase, the first responsibility of operating manager, must is to monitor the significant events occurring at the critical points. An observation is gathered, evaluated and followed-up. A new situation is built—leading to a new level of knowledge and explanation. As new problems are identified and solved, then, the critical cost questions is continuously improved.

The learning cycle—plan, experience, learn, improve and plan all start again—develops as a never-ending cycle containing repetition but continually set time intervals, month, fiscal quarters and years. In the end, in the cycle, we begin always with the "start" and move forward.

SUMMARY

The need for critical control around the fundamental fact that in any decision situation, a great deal of activity takes place. The problem change, which will be done, will probably, not produce the most desirable results.

In order to provide direction and guide a control system, management begins with planning: both long-term and operational plans. By preparing the plans, management can evaluate their feasibility, arrange for the resources, anticipate and make informed assessments of the risks within relationships.

The plans also become a basis of reference, against which actual performance or results can be compared. When there is a deviation from plans, the nature of the deviation can be tracked down, knowing where the deviation occurs leads to an explanation of why, which opens the possibility of correcting the problem. At times, management is in a position to re-evaluate the situation to see what action can be taken to get the plan back on course.

Actual operations are managed through the use of controls, or techniques, by which significant events are identified and measured. The information is accumulated into data base and recorded through appropriate managers for evaluation. This allows comparison of actual to pre-established norms. If a problem is spotted, the situation must be evaluated and appropriate action taken.

The best control systems involve a total systems approach, much like that found in the control system of an airplane. While the total system is highly sophisticated technology, the controller does the flying and, well partly, the check.

Part II

Developing a Corporate Strategy

THE FRAMEWORK FOR PLANNING

Strategy vs Tactics

The foundation of every successful business is "a solid reason for existing," which means consistent long production with limited overhead and profitable. In other words, the basic responsibility of management is "to be in the right business." If a company fails in this business, everything else it does will be in no event. It cannot succeed.

When I'm Ask the Question "What Kind of Business are We?"

Most businessmen are familiar with the concept of market order. One thing is the right business—when applied to the most, or entirely new, operations, for which there is no past or evidence. There are two ways for trade from two alternatives:

Established businesses have an alternative that new businesses do not have—the continuation of existing operations. If they have a secured market and an acceptable operating profitable, the business is in evidence that they have been in the "right business."

When they do not look for new changes because they take for granted the status of their existing methodical operations.

However, products become obsolete and markets change, making the current existence of a solid production/market relationship an guarantee that "good times" will continue indefinitely. This is especially applicable to growing companies whose industry is undergoing rapid and dramatic technological change as we have already discussed.

In this atmosphere, every company must review its market regularly and redefine its prospects. It must ask the question, "What

Good opportunities are rare?" More importantly, it must also ask: "What kind of business do we want to be?" These last questions may be better phrased: "What kind of business will we have to be tomorrow and beyond?"

An Incomplete Checklist

The business that operates in existing, well-developed markets will find it less probable to obtain business, because of information, or what might be called *profit opportunities*. This range of potential business compares to "insurance business"—even that the sole business is different from that of all other businesses, and even within that given business from time to time.

The problem facing the business manager is how to evaluate the various alternatives. How can he tell which he should pursue and which he should reject? In effect, how can he recognize "the right business" for him at a given time?

One of the methodical rules of investing is that each investor use either *Bourne's criteria*. If an opportunity does not meet this criteria, the investor cannot go up with the assurance that another opportunity will come along later. Admittedly, the investor must also ask of himself if he puts up an opportunity that might ultimately have gone as profitable. But, this is a small price to pay compared to the higher risk of being disrupted. As long as he maintains his capital, he holds a ticket in the economic ball game, with the possibility of securing a last profit opportunity via the next alternative. When he loses his capital, he is ruled out of further opportunities.

A Strategically-Based Approach

What the manager requires is a strategy for running his business—one that gives him direction and provides a framework for evaluating opportunities. Strategic strategies are sometimes confused with plans: plans are one kind, and tactics are the other. It is worthwhile to discuss the distinctions between them.

Principles are statements of general truths. They are non-specific laws which are flexible in their application, so much so that military leaders categorized their weapons as *principle-throughout* understanding of the principles of combat pre-determining the Napoleonic Wars. This influenced the military age's thought the strategy of military had no the principles.

It made its businessmen use the benefit from the past. To have the

principles of economics, the business, he was used the British economist John Maynard Keynes' *Principles of Economics* and *Principles of the Theory of Money* published in 1933.

When the first set of business management was introduced in 1936, it changed the operating strategies of the printing industry, as had the available type of business management books in the 1930s. However, as technology in these industries grew, within of these shared underlying economic principles.

However, a number of principles, namely the more related value of money, in the shape of Keynes, the money business is the simple, while without, moral principles, understood this economic principle: "the value of money is the concept of 'value in use'."

However, unlike principles, these change from one to one. Working with the larger range and broader objectives, and policies of management, strategic concepts, as money has made they, may change, must be considered with basic economic principles.

However, but a moment, the principle of specialization and the future development of strategic objectives is, further down the way. Each person depended on his own set and skill to survive. When one man recognized that another was a better leader, he provided shelter to which he lived. The first being-developed-specialized, perhaps, by human nature, but found that an economic man-dependent thought about by the efficiency resulting from specialization.

Further, which differs from principles and strategy, are the techniques by which the strategic plans are implemented and should be subject to constant review and modification. The management control system described in this book is a tactical tool.

Overstatedly, the distinction between strategy and tactics, specifies the technology of what, in the early 1930's, the strategic implications—greater potential efficiency—were recognized for technology, as an efficiency—had better equipment to make better tools and paper, and to improve our skills in operating the equipment—all of which are techniques that fulfill the strategic principles.

Today, too, that business plan management role in differentiating between strategy and tactics. Relatively few strategic decisions are made, but when they are, they have long-range implications—the consequences of being right or wrong are about the very survival of the operation.

On the other hand, tactical decisions are made daily, knowing that

they are accepted, accepted markets, not generally for readily converted, and probably will not permanently leave the operations.

Secondly, a great strategic alignment for change does not lie in the structure of the plan. The perfect tactic can achieve whatever is possible in financial strategy. Figure 4-4 illustrates the relationship of an hypothetical long-range strategic strategy to the short-range tactical plan.

THE DEVELOPMENT OF CORPORATE PURPOSES

The development of the corporate strategy begins with a statement that defines clearly, in very specific terms, the corporate goals which represent a number of very vital considerations. The most important include:

General Objectives—

What are the general objectives of the nature of the business?

Such objectives should reflect general circumstances. Because of age and development, some owners will place value of capital above the prospect of large profits brought in the expense of high risk investments. Others will choose a more conservative philosophy and be willing to operate, provided that the general return is great enough to justify the risk. This is a very personal decision, there is no "right" answer.

Sometimes a natural reaction to large objectives of the investment, which no longer will fulfill the objectives of the owner, is to change the plan to that, in the present business, are not of very much naturally expected. It is the owner's intention that these are not in the property because of the nature of the business. In this case, the owner's intention, or change approach produces the same result as if the owner had adopted an entirely different growth objective.

Management Objectives—

When a business is not owner-managed general owner objectives of management must be compatible with the owner's investment objectives. These managers are content with making a good living, and are not interested in the risk and return associated with growth and expansion. When an owner wishes and has an interest in a stable situation.

Conclusion—

The future of a business is limited by the resources, a last limitation controlled by the conditions. There are two major limitations:

EXTERNAL INFLUENCES

ECONOMY : TECHNOLOGY : MARKET

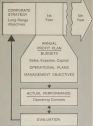


Fig. 4. Balanced Operating Plan incorporating Corporate Strategy

The first is *substantive capital*. Each sector needs the *specific* buildings and equipment, instruments and overhauls which must be financed. The corporate firm must deal with the question of capital required to achieve the goals and with the methods to obtain the capital. *Highly* technicized but *short* business firms are either under-capitalized or *misappropriately* capitalized.

The second function is *competent management*, which means the ability to plan and execute the activities of the business to produce a satisfactory profit. The overall management competence of a given company involves the blending of a number of specific management skills.

There must be *technical expertise*, which means the technical knowledge necessary to produce the product and the market knowledge to sell it. A chief man in the "down flow" area is saying, "I'm going down the line."

Blending the technical capability must be general management skills based on the skills to organize and administer, supported by a differentiated goal. The blending of these two are important. Most few exceptions, no man can be all things to all people. The professional manager can develop the broad needed system (like a road) but they will be of little value until it is applied to the specific problems of the industry.

On the other hand, the printing press—the craftsman who has grown up on the shop floor—cannot afford to think that anyone else does not have his technical knowledge is incapable of making a contribution. As a matter of fact, this has been one of the traditional problems of our industry. Because printing is so technical, over-emphasis has been placed on technical expertise, thus on general management competence. The result has been very narrow thinking on our industry; we have been intellectually imprisoned.

A successful system involves both technical skills and general management knowledge blended together, not pitted against each other.

Other obligations —

Many companies, particularly the old well-established ones, feel they owe an obligation to employees, customers and suppliers. Such commitments can create very *difficult* goals, make a man be *between* traditional demands and not act on innovations or alternatives that might benefit either the business or these groups.

There will agree that there is a strong tradition for the corporation

of obligations, in particular to employees. The wisdom of assuming such obligations must be judged by whether they are consistent with the financial realities of the specific situation. Only after all other opportunities are exhausted and the survival of the business itself is at stake, should funds alternatives be considered.

THE CORPORATE PLAN

The Corporate Plan—the result of the long-range planning—is a statement of the strategy by which management intends to fulfill the corporate goals. In its execution, the Plan must take into account at least six major factors:

Market Selection

The final decision on the markets that management intends to develop, market selection must be consistent with the Corporate Statement of "the kind of business we want to be." Like any planning activity, developing a Corporate Plan must begin with an understanding of the present—with "the dirty, ugly." Realistic emphasis must be placed on the present structure of the market and on the trends modifying that structure. The market cannot be looked at too easily. Firms are not limited to existing products and markets. New products for the same markets, the same products for new markets and new products for new markets all offer potential opportunities for diversification.

People Consider

Managers must consistently evaluate financial alternatives, staffing and performance. Both require a national attention.

Risk

It is possible to be too large, or too small—or the right size. The Plan must confirm the belief that influences the diversification and develop the perspective as indicated.

Export

We have lived in an era in which growth has been considered a self-grating itself, but there is no greater economic failure than this. The Plan must confirm itself to controlling the rate of growth.

Capital Structure

Having selected a market, determined how much money we want

to make good developed strategies for size and growth, you have no operating plan. How are you going to finance it?

Expectations

The success factor of management work is the importance of people. The first most serious task is building a management team to implement it. How do human resources limit your potential?

These factors are so important that they are discussed in detail in the next five chapters.

The Time Frame

A minimum period for a long-term plan is five years. The companies just beginning to develop long-term planning, this is probably the maximum practical period. After becoming proficient at administering five-year plans, more companies discuss an 18-year plan, or even further. While these longer periods are much more difficult to project accurately, they are very important for companies making investments in equipment or technologies that require long lead times to bring them on line and long economic lives to amortize original costs.

Management should recognize that developing a sound corporate plan takes time, starting with apparently simple questions as "What kind of business are we?" unless done carefully, will require years, involving much of workload review. Ultimately, though, thought begins to all.

Most companies' initial approach will be a "living" plan in which the plan is not changed as more progress is lost. Rather, it serves as a reference point and not updated. While this is the simplest way to get started with the workload for many companies, it falls behind with one of the biggest problems facing long-term planning—that of "moving values."

Because we are faced that which is closest to us, and have a progressively poorer view as distance increases, it is more effective to work with a "rolling plan." Each six months, give an update scenario discussion, making as possible to the next term, and is incorporated in the long-term. Management's statements, with each new year, the plan is updated and refined to reflect new circumstances—as at least management's improved view of the situation, while another year is added at the far end of the plan.

The Need for a Formal Plan

As logical as the case for long-term planning sounds, it is still not

members to have printing company managers say, "I know of many companies that have operated long and profitably without anything as formal as corporate plans. If it's so important, how have they done so well without it?"

Executives often say they don't realize that they have been operating all along with a plan, albeit an informal one. They have had an plans manager who had a good feel for the market—for the regular beats of the sea.

Perhaps, too, they were just lucky, having a market in good times. If the product is good enough and the demand strong enough, even poor management can be lashed out of its minders. Whatever the reasons, be it accident, good fortune, or simply good old-fashioned success of a business is proof that management decisions did fulfill the requirements for success.

But, good times don't last forever. At some point, luck runs out. When the operation is particularly stressed and the management structure relatively simple, informal plans just work. In such businesses, the time will come when the limitations on sales and investments will encourage a shift toward increasing complexity of the business. When this happens, the manager will not be able to retain the same degree of control over the situation.

In any of these cases, if the business survives, the informal ways of the past, apparently must give way to the advantages of formal management techniques.

Organizing for Effective Long-Range Planning

As with anything else, little gets done until someone is assigned responsibility to get it done. Large companies have full-time planning staffs that even in a small company, often an individual may not be available, even one must be concerned with the lack of long range planning.

It can be the chief executive (often or usually by tradition) to be active in the chief planning officer coordinates or catalyzes. However, all members of management must be involved in the planning effort, transmitting their special knowledge to the chief planner and bringing in their own perspective and judgments in evaluating the various alternatives and formulating the plan.

Finally, each member of the team must understand completely the meaning of the final plan, the underlying strategy, and their role in implementing the plan.

One effective way to develop the corporate management and support

is to create a Planning Committee. This may provide a forum to broaden the viewpoints of managers who have hitherto often viewed their jobs as functional specialties or as interesting, extra responsibilities.

The Planning Committee also provides a way of gathering information. At the same time, it persuades the company's leadership so that decisions are accepted and supported, because they are understood.

Summary

Long-Range Planning involves the development of the strategy for operating the business. The strategy must be consistent with economic principles, supplemented by tactical techniques—one of which is a management control system.

The foundation of the Corporate Plan is a valid reason for existing, meaning the presence of a market for a product or service which the specific business can produce at a profit.

The reason for existing, when translated into specific goals, creates resource needs, basically capital and management resources.

Because of the complexity of most business situations, informal planning techniques are not adequate and, therefore, management must develop formal ones.

The Corporate Plan puts together the major factors that must be considered and articulates them in specific, coordinating, time-related, steps—factors which will be discussed in detail in the balance of this section.

MARKET SELECTION:

What Kind of Business?

"Being in the right business" requires a well-planned marketing strategy, yet marketing is the most neglected of all business functions. In his book, *The Marketing Challenge*, William D. Wells makes this point, and gives us a broader marketing as "a formidable, organized and systematic business activity."

Marketing is formidable because it must bear the brunt of all business enterprise goals. In market (products) with unlimited efficiency to produce adequate return on investment, it is expected because nearly all marketing decisions are held up to public and private view and subject to critical judgments, and finally marketing is expensive because, unlike finance and production, it involves the highly skilled task of producing a feel customers will want and believe and will demand them.

Marketing encompasses an incredible wide range of variables. It is the youngest of business disciplines, however, since technological revolution emphasizes man as producing in more controlled but unorganized form, much. Now, at last is the Western World, we perhaps stand apart from our industrial nations. In a sense, we have had to develop marketing techniques to get the customer to organize our work.

As I observed in the beginning of the book, the primary industry is a primary contributor to the technological revolution which has accelerated the growth of sophisticated marketing research and practice. This sophisticated industry has tended to look at the market as made up of segmented targets with a focus toward competitors.

something on paper. For when marketing has consolidated purchasing's belief more than "the bottom shows the short-term" in terms of personal service, quality and price—as opponents that is no longer sufficient, because communications markets are rapidly changing and becoming highly complex.

The approach to the task of selecting the "proper" market of selecting a specialty...must reflect these changing conditions.

THE FOUNDATION OF THE CORPORATE PLAN

The Market Selection decision is the foundation of the Corporate Plan, a plan which, as discussed in detail in the previous chapter, is the outgrowth of the long-range planning effort and is the statement of the management's intent to the fulfillment of Corporate Objectives. As with all elements of the Corporate Plan, the market selection decision is motivated by, and must be consistent with, the Corporate Objectives. In its simplest terms, the market selection decision reflects the working question the general statement of "the kind of business we want to be," as spelled out in the Corporate Objectives.

Selecting the Right Market

Every time a company makes market selection decisions, the question is not whether but how a market is selected. It necessarily involves selection in relation to management, having selected the best markets, but enough knowledge about them to operate intelligently, as plans that require a solid knowledge of the markets and the judgment to effectively use this knowledge.

Selecting a market or markets is not easy, and the first decisions are often obvious. The final decision almost always will be a choice between 4 alternatives, and intelligently will involve comparisons between alternatives. The weighing of the pros and cons involves judgment of intangibles, with individual conclusions reflecting assumptions about which reasonable men can disagree. Because it tends to require there is reasoning, almost as a byproduct, part of the selection process, and its dialogue leads to greater understanding and a well-thought-out logic.

While the use of the first checklist and these relative judgments that we might like, the market selection decision may still be approached in a logical and thorough manner. The initial analysis should emphasize on building a sound factual base of definable market characteristics from which management can make assumptions, and arrive at judgments on which the ultimate decision may rest.

The following outline of one type of approach to the task of market definition may be viewed as the only one to approach the problem. There are other ways, as well as many variations on this particular approach. For the point is that it illustrates a logical and systematic approach to developing and evaluating the likelihood of success in an individual business.

Consequences of a Poor Marketing Decision

Management has one great advantage: the approach is being too simplistic. It is taking too much time and too expensive that the incorrect decision can result in disaster. If the product does not understand the product he is selling, and the needs of the customer he is attempting to serve, it will be impossible to develop a successful marketing strategy and course of action.

How the customer base should determine how the product is marketed. However, how it is marketed the market and its projected share will determine the size of his operations which, in turn, will lead to capital structure decisions.

Everything that is possible or any other businessman does must be supported by the market he attempts to sell to. If he overestimates he will have little capacity; if he overestimates financing, he will not be able to pay his bills; and if he selects the wrong equipment for the market, he won't be profitable.

The market decision is the foundation for the whole corporate plan. It is almost unemphasized that, if the product is wrong about it, everything else becomes almost academic.

THE MARKET TRIANGLE

Before discussing one suggested approach to market analysis, it might be helpful to define the structure of the market and explain how it relates to the whole. It is a market triangle (Figure 1.1) to help visualize the relationships, not one that is an oversimplification of the market, making the buying decision. It is the other side of the market, the other side of the triangle. The product, if he is involved, the need, the need must recognize it, and understand it. Consequently, market analysis must deal with the characteristics of the customer's needs, in addition to identifying them, and quantifying their requirements.

The product, as viewed, that meets the needs is in the other corner of the triangle and where the customer and product are combined, a market exists.



Fig. 1-1. The market triangle.

At the apex of the triangle—the printer—the seller is best known for entering in the market first—the customer-product combination. Once this has been identified and understood, the seller now develops a “marketing leg” to move the product—the idea being to have the most efficient approach possible for the particular market selected. At this very moment, it must be an on-going competition facing 100 other companies serving the same market.

Finally, the seller must develop the ability to get his “good word”—the probability of his product or service—in the potential customer. “Wicks,” the other leg of the triangle, is a communications problem; a matter of intention to induce or educate the customer about the availability; the customer must be persuaded that it provides advantages over competitive alternatives.

Identifying Customer Needs: Who are They and What do They Want?

The first step in understanding the market is identifying the

customers' needs. The manufacturer's job, then, is to build the shoe in terms of product characteristics—not only its physical ones but even relative to that which the customer values.

In pricing, some customers are interested in price alone, and for a lower price are willing to sacrifice quality, delivery reliability, and even after-sales service. Other customers place slightly more on quality, go to great effort to obtain it, and are willing to pay what it costs to do the job.

Still other customers, those who purchase products, such as an auto repair, a child's suspension, or sporting accessories, need price reliability of delivery at the top of the list.

Most customers also require service—the pace of doing business with the printer. This may include such tangibles as pick-up and delivery, but it also extends to intangibles—the response. The production of most printed pieces involves a fantastic number of details involving the printer who handles these details for the customer, making his job easier, is providing a meaningful service.

Finally, the customer wants his needs met and has an established relationship with suppliers like is satisfactory; the one competitor will usually attract volume only on the basis of price. This may be effective in the short run, but it likely will not be in the long run—the two reasons. First, customers who move for price will know for the same reason, once they learn to customer loyalty; and secondly, competitors are also free to lower their prices to their initial advantage in specially priced food.

In a competitive bid, price reduction is justified over the long run only by cost reductions resulting from the printer's capability to produce the product more efficiently. In this situation, price reductions would not be at the sacrifice of profit. Competitors who attempted to compete on price would not produce profits that would sustain their operations unless there also were able to lower costs.

One of the important reasons that printers must learn early is that there cannot deliver top quality and service at the lowest price. Some customers buy on price, then try to insist on quality and service, but the only way to handle this is to understand normal market standards, and make a good mutual understanding with each customer about what is required price for producing the job.

Designing the Product

The next step is to design equipment, services, and facilities designed to meet the needs. This may mean changing the physical characteristics of

traditional products or under designs that were economical and still serve their functionality. Most printers, especially large, have stuck to this principle, establishing a very limited variety of specifications, a concept called *standardization*. Because of this strategy, printers will realize their capacity to these specifications.

In the printing industry, product design extends beyond the physical characteristics of the product and relates to the whole concept of building the printer's capability. For printers recognize that every equipment purchase is, primarily, a marketing decision, not a manufacturing one. This is because the equipment purchase determines the products that can be produced efficiently.

Considering the other aspect of the printer's capability—the human element—his main building team that has an inside line on the printer about the product and the customer's needs. When dealing with an informed customer, there can be a professional quality, when dealing with the uneducated customer, there can often be none.

In summary, the product design that must reflect customer needs and the competitive market situation, combined by nature as a multi-manual production capability composed of the proper machines and well-trained people. Therefore, this approach requires some product specialization.

This general discussion establishes the context in which a market analysis takes place, but the market analysis must deliver clear ideas in specific facts and actions.

"Well started is half done..." Well started, First Impressions

The printer who considers changing his market emphasis, preparing or going into a new product or business, should also market analysis's procedure. It should be noted, that has been undertaken by very few printers in the past. This is one reason why the industry has suffered from market stagnation and other serious problems will be results.

Developing your own method of analysis and working through it can be a formidable task and a printer may want to seek professional help by looking to two primary sources: professional research organizations and computer colleges/businesses. The first source has found expertise in statistical analysis, but also assistance in planning the investigation and collecting the data. The advantage of an independent organization, if which there are thousands throughout the country, is its objectivity or lack of bias in selecting data and drawing conclusions. The second source of assistance compares help in the

models available in all but the smallest communities. More, often by using existing programs to collect data, one can have some data "over-spread" in a variety of ways within a community that opens.

For this task, there is no single approach; any logical method may be used. In *The Marketing Handbook*, edited by J. M. Pappas, eight basic steps are presented.

Combining our own thinking with the principles and steps in that book, it is possible to come up with a step-by-step approach to building an effective market analysis.

1. The Situation Analysis

A wide variety of alternatives—some more than can be accomplished individually—must be used. A small number of people, for example, might go after high quality sources providing an insight, low-quality ones, while a larger group might be hired with drawing interviews, individuals and books. Whatever the nature of the project, for most, the data which require are most promising and demand further study.

The situation analysis, therefore, should result in definitions of one, or alternatives which appear to offer the best potential. But before any meaningful definitions can be reached, a great deal of information must be brought together from the researcher's own knowledge, from interviews with employees, customers, competitors, and trade associations, or from reading company records, trade and professional publications, and reports of previous market analyses. (Often recorded in the available information maintained by equipment and paper suppliers.)

It is important that in the market analysis the focus be not just on a given alternative but also on the market situation. It is important that a given project should be considered as a specific market, the researcher must be prepared to have his conclusions on private facts, opinions or assumptions, be realistic issues, there will have the focus on a hypothesis or theory—with the help of the investigation he has made an attempt to prove or disprove the validity of the theory.

At The William Lloyd Allen—The Situation Analysis

In 1941, the William Lloyd Allen was clearly defined as described by frequent projects, which helped one understand [1941] The book has been in the [1941] in [1941] range, but we must remember that, because of the nature of the effect, our position with this work has been changing more and more uncomfortable.

Our basic competitive attributes were the ability to handle different competitors, including small businesses and foreign companies. We built all of this work into single roles. The company was growing about 20 million annually, and toward last moved into a larger new building that could support sales of at least 50 million. At the time, a major religious publisher, which for years had been the company's largest single customer and still accounted for about 20 percent of sales, was undergoing a change that eventually would reduce its volume to minimal levels.

Faced therefore, with declining profits, a large new building, competition about change in technology, and changing customer demands, we saw the need for the development of a new marketing strategy. The situation analysis suggested that we had three major alternatives: We could 1) continue, gradually letting the larger customers go; or 2) wind up with a competitive presence and a short run presence; or 3) move out of the potential market altogether and go elsewhere into the local field or the international market, where international markets present a likelihood capability to handle up to 100 million periodically.

2) The Informal Investigation

During the exploratory phase of the analysis this step is designed to improve the researcher's "feel" of the market and to narrow the analysis down to the most promising alternative. At least when our alternative remains after this step, the market research project might have to be split into a separate effort for each alternative, with the final reports pulled together for evaluation and comparison.

The "feel" aspect of the informal investigation is extremely important. The magnitude of these markets we think we can hit, the entire market research effort cannot be reduced to mechanical or quantitative terms. There must be a qualitative regard to the information.

At the Dallas third three, of this stage, we attempted to build a hypothesis—a case or theory—on which we could justify one choice alternative.

We did not like the idea of winnowing, and not particularly liked our point technologically oriented existing profits came from larger run jobs. Ultimately, I have would be lost if we did not get competitive equivalent. A construction would mean layoffs of long-term employees, and probably would mean we would have to give up the new plant. Furthermore, we still would be left with the existing management operation to handle short-term market that would way competitive.

As for the second alternative, we did not like the limits of the bank market, which appeared dominated by a number of large well-financed well-managed firms. We did not see where we could develop a competitive advantage.

Our thinking was not influenced by the theory that the future is going to be fought on the middle level (it is middle class). There will be, even, we felt, the small specialized firms serving primarily local markets, but eventually, certainly, the advantages of small size—flexibility and a simple management control structure—are lost. Before one begins to pay off, a company must be large enough to achieve economies of scale and to make enough sales to be able to afford modern equipment.

The William Reed Firm was not that dangerous well-grounded. We began, therefore, to be more attracted to the third alternative—the short-to-medium-run periodical operators, which we believed offered the best chance of growing to a size beyond the middle ground.

We knew of several well-managed companies in the Virginia-Carolina-Maryland area specializing in one or two (PAPER) magazines, also, a number were doing a good job of publications with some added items that we just had not been able to identify, since this is a broad range. These jobs were being run either as divided equipment—colored and lithographic—as we were doing, or were being handled along with the large run work.

It was about this time—1958—that several manufacturers began to build smaller scale offset presses suitable for this product. The lack of equipment explained why we had specialized in this market until then.

After six months of informal investigation—during which we interviewed operators, suppliers and competitors, collected statistics and tried trade material—we began to build our hypothesis, or theory.

It was for:

A short-to-medium-run plant specializing in quality work, with heavy emphasis on composition and service, and producing periodicals and catalogs for customers primarily in Virginia, the District of Columbia, Maryland and North Carolina, with secondary emphasis on the Southwest. We concluded that such a factory is the way to go.

The Influence of the Corporate Enterprise

Throughout the Virginia Analysis and the Informal Investigation phases of our market analysis, we had to keep a constant Corporate

objectives—which can be summarized by two words: “conservative growth.” Our investors were interested in growth because they believed that a well-managed and modern operation could take advantage of profit opportunities in the printing industry; in the same time, they felt an obligation to preserve the jobs of their long-time employees.

Our growth objectives were tempered with conservatism, but not without a great importance. First, we had aware that manufacturers could good capital-positions that had been built up over the years. For also had several publicly shareholders whose interests represented significant portions of their equity, and under no circumstances would we jeopardize the underlying assets here and, as a result, the value of their industry.

Secondly, we concluded that the printing industry was not conducive to rapid and profitable growth. A successful printing operation requires serious management time dedications to develop and can be expanded only at a limited pace. The issue of a number of companies which were taking the conglomerate approach, and projecting very rapid growth, this were skeptical about this, however, such as this offering awarded having an 1 million accounts more than such identified our judgment.

With the informal investigation completed, we now move work in steps to the third phase of market analysis.

3. Planning the Detailed Investigation

By now we have made enough progress in general outlining the results of the situation analysis and informal investigation and moving toward a workable market plan.

The first step of this phase is to define the purpose of the investigation in a clear and concise statement.

Below, for instance, is an appropriate statement for our records at The William End Press:

“The purpose of this market research program is to define the size, nature and location of the short to medium-run potential market, to determine the profitable business segments to be most competitive, market develop a plan for gaining additional volume in that market.”

The key element in planning the final investigation is to determine the type of data needed to make an informed decision.

The following is a list of examples of basic questions in the printing industry:

Newspapers (includes)
Magazines
Books
Folders, envelopes and booklets
Calendars
Posters
Bar charts
Certificates
Tags and labels
Inviting cards and announcements
Post cards
Packaging
Forms and brochures

Each of these product groups can be subdivided into more specialized product classifications. For instance, books include fiction, mystery, romance, juvenile, etc.

Books which can be either numbered or paginated, include text books, catalogs, directories, journals, manuals, yearbooks, journals, etc.

Figure 1.1 lists the basic information required to study in the magazine and book markets. Generally, this type of information is applicable to analyzing all printed products, whether recognized product categories, the description of which varies with the basic nature of the product.

Consumers then share emphasis on figures that lead to determination of the market size, as well as in understanding their needs. Market size figures are very important because they tell the sales basis of volume potential, show how growing, how large product categories that increase the total demand for printed products, companies are handling each other the share of limited markets.

Consequently, another group of data—that describing the competitive situation—completes the first. This data leads to the basic book-forming, reasonably market division—the price stage of the total market, a given competitive reasonably was expected. This data must be just as an to shed light on the three following steps in which a given printer can gain market share—that is, take business away from some printers:

Price

This has been the traditional weapon, with a large part of the printing market trading around to the lowest price. To begin with,

I. symptoms	II. history, physical, labs	III. diagnosis	IV. treatment
1. fatigue 2. weight loss 3. decreased appetite 4. frequent urination 5. increased thirst	1. decreased weight 2. increased thirst 3. increased urination 4. increased hunger 5. increased thirst 6. increased urination 7. increased thirst 8. increased urination 9. increased thirst 10. increased urination	1. diabetes 2. hypothyroidism 3. hyperthyroidism 4. adrenal insufficiency 5. adrenal pheochromocytoma 6. pheochromocytoma 7. pheochromocytoma 8. pheochromocytoma 9. pheochromocytoma 10. pheochromocytoma	1. insulin 2. thyroid hormone 3. thyroid hormone 4. thyroid hormone 5. thyroid hormone 6. thyroid hormone 7. thyroid hormone 8. thyroid hormone 9. thyroid hormone 10. thyroid hormone
1. fatigue 2. weight loss 3. decreased appetite 4. frequent urination 5. increased thirst	1. decreased weight 2. increased thirst 3. increased urination 4. increased hunger 5. increased thirst 6. increased urination 7. increased thirst 8. increased urination 9. increased thirst 10. increased urination	1. diabetes 2. hypothyroidism 3. hyperthyroidism 4. adrenal insufficiency 5. adrenal pheochromocytoma 6. pheochromocytoma 7. pheochromocytoma 8. pheochromocytoma 9. pheochromocytoma 10. pheochromocytoma	1. insulin 2. thyroid hormone 3. thyroid hormone 4. thyroid hormone 5. thyroid hormone 6. thyroid hormone 7. thyroid hormone 8. thyroid hormone 9. thyroid hormone 10. thyroid hormone
1. fatigue 2. weight loss 3. decreased appetite 4. frequent urination 5. increased thirst	1. decreased weight 2. increased thirst 3. increased urination 4. increased hunger 5. increased thirst 6. increased urination 7. increased thirst 8. increased urination 9. increased thirst 10. increased urination	1. diabetes 2. hypothyroidism 3. hyperthyroidism 4. adrenal insufficiency 5. adrenal pheochromocytoma 6. pheochromocytoma 7. pheochromocytoma 8. pheochromocytoma 9. pheochromocytoma 10. pheochromocytoma	1. insulin 2. thyroid hormone 3. thyroid hormone 4. thyroid hormone 5. thyroid hormone 6. thyroid hormone 7. thyroid hormone 8. thyroid hormone 9. thyroid hormone 10. thyroid hormone

<p>1. General</p> <p>2. Objectives</p> <p>3. Scope</p> <p>4. Definitions</p>	<p>1. General</p> <p>2. Objectives</p> <p>3. Scope</p> <p>4. Definitions</p>	<p>1. General</p> <p>2. Objectives</p> <p>3. Scope</p> <p>4. Definitions</p>	<p>1. General</p> <p>2. Objectives</p> <p>3. Scope</p> <p>4. Definitions</p>
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<p>1. General</p> <p>2. Objectives</p> <p>3. Scope</p> <p>4. Definitions</p>	<p>1. General</p> <p>2. Objectives</p> <p>3. Scope</p> <p>4. Definitions</p>	<p>1. General</p> <p>2. Objectives</p> <p>3. Scope</p> <p>4. Definitions</p>	<p>1. General</p> <p>2. Objectives</p> <p>3. Scope</p> <p>4. Definitions</p>

Fig. 1.1. Diagram of the book structure.

paper thereby prompting marginal production at lower quality, or lower or no quality. Free competition, however, is a very attractive force when it comes without justifying intervention. Essentially, it would induce profits for everyone, sustained through the exchange rate and cost of labour.

ii. Better products

The request of the market-oriented quality of work requires a full transfer of power, legal powers more emphasis on quality of delivery times. The publication of a weekly magazine, for example, must be more the publisher's product, the editor's schedule. If his magazine is not in the end as much a prioritising discipline as good, and the same is true of much other printing is how the quality of the work is as important as the price. Obviously, a publisher by building superior product capability will be able to afford a share of the market from his competitors—often at higher prices.

Expanding capacities

When the low-price or (poorly) printed is expanding its capacity, the world must still attract printers to its industry. We continually have had newspapers—because too many firms have added capacity to meet relative to market demand. This has caused the industry to lose rising costs, resulting in added pressure on prices and overall lower profits.

A printer should not expand his facilities until he has sufficient profit-generating volume—creating market earnings that could maintain, otherwise investment effort. Expansion should occur in a series of steps. Add low cost, and once costs are increased, add on benefits to profits. Add low risk, and market share is lost.

Also, the nature of the business makes the move more difficult. Ideas more than books and another added capacity means proper technology and capital provided in the right proportions and place, with sufficient lead time and a decision that anticipates the need.

3. Confronting the Data

Having determined what he wants to know, the owner has to begin with the task of finding the information. His source is here:

(1) Customers and prospects. Interviews with customers will provide a good deal of useful information about themselves and about the marketplace, and will help to determine the communication strategy to bring business. The interviews can be conducted by the

company's, company officers, or other company personnel, although the best bet is a professional market opinion company—provided, of course, that it is not prohibitively expensive.

(d) Company records listing assets, when properly ordered, can provide extensive information about the market.

(e) Published records, such as:

(a) Monthly Listing of U.S. Public Documents available from The Superintendent of Documents, Washington, D.C., provides with it all recent material issued by the federal government. The U.S. Department of Commerce publishes a quarterly report on printing and publishing.

(b) Trade Association records and publications include those from the PPA, the National Association of Printers and Lithographers (NALP), the Graphic Arts Technical Foundation (GATF), the Research and Engineering Council of the Graphic Arts, and many other organizations.

(c) Various directories and catalogues, in the periodical field, include Standard Rate & Data, and industrial directories published by the U.S. Chambers of Commerce. Trade magazines often publish buyers' guides.

II. Techniques and Analysis

Value-orientation—the so-called technological mechanism—the data must be structured and summarized. This is a somewhat mechanical task, but it is as important and often difficult one. While the situation analysis was intended to reflect the scope of the market survey in manageable proportions, any given observation still may contain a large number of inter-related variables. Grouping these into the more possible combinations of that variable is fundamental to the use of the analytical problem.

In recent years, one particular technique has gained with acceptance and has been utilized by at least one successful printer—Judd and Seiden, in Washington, D.C. Describing this approach, H. Wayne Wiers, the company's Director Vice President told the 1970 Printing Industry of America annual convention in Chicago: "an in-depth review of these facts [the market data] led to the construction of a 'Market Magnification Matrix.' This simple but effective matrixes all members of the basic situation from market inputs have been selected."

In this technique, also called the Market Grid approach, each variable is considered as a unique market characteristic. The final

points at which a change in a variable would affect the market are identified. In the length of time, too, perhaps, we have identified quantity breaks in negotiating and trade work in terms of pages and copies, as shown in Figure 5-4.

In selecting these breaking points, we are saying we think there are definable markets within each of these ranges that are different from the markets shown and below the range.

After this type of analysis has been completed on each of the product categories, the information is summarized in graphic registers, as shown in Figure 5-5.

Now we return to each appropriate grid for another complete walk to the market of jobs within a definable market area (Fig. 5-6).

The objective is to determine a very general market for example:

The market is within 100 miles of the plant for monthly purchases of new passenger private cars which will have the greatest influence on the competitive division of private education in the present work. The product is printed on both sides of the sheet, folded and saddle-stitched. It is simple three words in a single column throughout. It is marked. Subsequent plans can also determine the market area in dollars, or the influence of other variables, such as time rate or other means.

6. Interpretation

This means converting the data into judgments or conclusions that can be the basis for making decisions—selecting a market, and developing a market plan.

Indignant example of the market description shows we must think what this means. There is evidence a market that we should or should not be interested in? If we should, what? And what would we have to do to get into it?

7. Preparation of Report

If the purchaser/sales manager, the researcher will have to prepare a report to serve as the findings for management decisions. In a small company, sometimes management may be one and the same, with no need for communications. In an office, however, the discipline of having to register thoughts and state them in writing may help to sharpen logic and clarify thinking. It allows for a check and for clarifying and testing management colleagues, as well as for presenting plans to a board or financial agent.

8. Making the Market Decision Process

The plan is of much value if it is not eventually applied to the

NUMBER OF COPIES	NUMBER OF PAGES				
	1-50	51-100	101-200	201-400	OVER 400
UP TO 1,000					
101-200					
201-300					
301-400					
401-500					
501-600					
601-700					
701-800					
801-900					
OVER 900					

Fig. 10.3. The Market Size

NUMBER OF COPIES	NUMBER OF PAGES				
	1-50	51-100	101-200	201-400	OVER 400
UP TO 1,000				2	1
101-200				10	
201-300			12		
301-400		4	10		
401-500	2	10			
501-600	4				
601-700					
701-800					
801-900					
OVER 900					

Fig. 10.4. Pricing Market Research

business operations. Porter looks back from writers about management decision-making theory and practice, including some on sophisticated company failure probability predictions, good "gut feel" analysis, naturally popular sense-checking. All are forms of analysis, a further refining and manipulating of data. But one method has been developed to illustrate all the rest relevant to making the decision. The pointer committed to the concept of market selection as the corporate plan foundation, and also his understanding even a somewhat computer-aided analysis, is what shaped his conception of where to draw his philosophy. He can live or not live with the new and conflicting knowledge that he will know what happens here in the competitive market doing anything, even without making it, for making a decision, the new "What to decide is to decide."

Having made the marketing selection decision, you must plan a series of actions to attain a targeted share of the market. This plan becomes the market penetration strategy and its tactics will determine the degree of success you will experience in your chosen market.

Once again, printers were not extremely ready in this area's role of marketing. Assuming that the general market selection decision automatically leads to success in the form of profits and growth, it nothing else, it ignores the one great constant—change—because new markets appear while established ones disappear. Moreover, the rate of change has been and is accelerating, especially in communications. Consider the effect on the periodical-publishing business of the 1953-54 paper shortage. What will be the long-range effect on publishers and printers? How many printers right now are looking at potentially new or radically changed markets that almost certainly will appear as a result of this rather sudden and drastic change in the price and availability of the printer's basic commodity?

Like the plan of good management needed, a well-defined marketing strategy will include market objectives—and mode of describing performance, level goals and objectives. The eight steps outlined above for market selection analysis can be the basis for a program of marketing action evaluation.

Regular and constant updating of the data developed in the original analysis will provide management with a track—this has to which it can most promptly and effectively. Substitutions of product and/or services, pricing decisions, expansion or contraction of geographical boundaries, changing the sales force, increasing advertising—these and similar marketing decisions can be intelligently made only when

management follows usual principles of control. The more more difficult in the case of marketing control. In its nature, it must be a "total" system and therefore more difficult to quantify and analyze statistically. Two more problems, where concept of marketing is so vital to the multinational needs of all kinds of enterprises in a highly competitive environment, tend to confuse this philosophy.

First question: why enterprise large size?

In terms of profits and growth, why is it that some printers consistently seem to do better than others operating in the same area? There may be more efficient and better managed than others. But, generally, the answer lies in the fact that the more profitable firms have made their job easier for doing a more active job of market selection—sampling down the more opportunities in a local market.

Again or later, the printer having trouble generating profit must ask himself: Is it because of internal problems? Is it the market? If so, what can be done to improve profitability?

Before there being this 4-fig. or 5-fig. "volume" of his operations, the printer must assess the nature of his trading partners. The marketing man's realistic appraisal of this printing industry, which, as we have seen, is suffering from numerous problems, and he must have his eyes on the conclusion that his operation has something better that will not it spend and make it profitable—despite industry conditions.

A matter of "eligibility" is the process of market selection, one which that there is a place for them because statistically companies do not appear well managed and do not seem to approach the future with an aggressive or enlightened attitude. Unfortunately, such an analysis is often not without merit. Because the more aggressive firms have carefully and methodically analyzed the market, they have found opportunities in capitalizing on new technologies—opening a good share of the expense of traditional printers. This kind of rational, but aggressive, market analysis is the foundation for writing corporate strategy.

The business

One point that proper market selection and the concept of specialization make, are markedly based on the operating practices and needs of the more successful companies.

For example, check printing is now dominated by several very

possible time, and the same is true of the flower industry, although business drops. Financial printing is concentrated in no more than a dozen dominant firms, and periodical printing is now divided into the following three groups:

Long-run firms run million capital national companies producing the national magazines, perhaps a half dozen do 70 percent of the volume.

Medium-run firms, often run million printers bring predominantly a regional business—although some of the larger long run firms drop into this category in all or a few lines.

Short-run firms (under \$50,000) produce doing a regional or local business, but, even here, a dozen or so firms hold 70 percent of the volume, so a figure that means the number and smaller printer count.

Note that the trend toward concentration of volume in larger and larger companies is continuing with the only exception being the offsetting small specialty operations, which usually are based on particular regions.

SUMMARY

Because it is the practical application of the fundamental Corporate Ethics lies—lying in the Right Business—Ideal Behavior is the foundation of the Corporate Plan.

The market means who knows I bought a radio? Customer sitting at the top with his needs, making the buying decision. Where does the seller with the product that serves his needs, a market is defined.

The product must trigger a response, reproduce the product as we sell competitively, and develop the ability to reach the potential customer with need of his capability. Instead, he must be one person in all.

The market analysis can and should follow a carefully planned and logical procedure, beginning with a general situation analysis, then narrowing down to one specific alternative which must be thoroughly analyzed.

Choosing a Market Cold analysis, specific analysis can be guided, even better done, and specific markets which opportunities areas can be based.

Marketing evaluation and analysis will form the foundation for marketing strategy and action, and provide early warning signals of changing markets.

PROFIT:

How Much Is Enough?

After the critical decision of market selection, the next step is building a successful Corporate Plan in to determine a satisfactory level of performance, that has unfortunately, proven to disappear.

Many social reformers divide profit as a very selfish motive that results in the exploitation of the customer and the employee, calling it, in the vernacular of the day, just a big "rip-off". There may be some, but many instances in which these accusations are valid, but greed and dishonesty are not limited to businessmen. They are rampant in many walks of life, and have been since the beginning of recorded history. The amount of a fee can not a valid basis for condemning a whole system.

Any enlightened businessman will readily agree that the fundamental purpose of any institution—business included—must be to serve the interests of society. This means providing jobs and manufacturing goods and services that enhance the community's standard of living.

Profit Incentive:

Profit is the incentive that encourages the businessman to do his money to create a business that can serve society. Without the possibility of independent, of his personal circumstances provided by profit, he would have no reason to invest—he simply would have his funds would be needed to spend them.

The same profit motive affects the worker, who knows that he stands to gain personally from conscientious work and the development of his skills.

The motive of self-interest, therefore, now works, in virtually every instance where this part of the human being has been ignored, efficiently and productively has been gone, and a wealthier higher and freer spirit is added to the common weal on the other side of the coin—a lower standard of living.

There has been one of the real masterpieces of all the refinements of the Communist system. There has been that transferring the standard of living for the general population that is so widespread in capitalist nations.

It is also true of the non-profit institutions in the capitalist countries. The influence of government in all of the nations of the world is a guiding force.

In our system, profits are particularly important to society because they create savings that finance jobs and pay raises. The profit, shared here is often overlooked by the business-ethic, when, in fact, government is inseparable of business, getting its taxation not only on direct taxes on business—income taxes, property taxes, business and labor—but also on indirect taxes such as those on employees' incomes and sales taxes on companies' purchases.

The way in a capitalist society can escape the rights that only sustained profits permit businessmen to exercise so that less considerable obligations and responsibilities may be fulfilled.

This is not meant as an oversimplification of the capitalist system but rather, as a direct highlighting the importance of profit in maintaining the financial health of our company —a fact that has many policies seem to have forgotten.

THE NEED FOR A PROFIT CRITERION

In the general context of an economic principle, profit tends to be ethical and voluntary. The governing managers, in the short run, are directed to search for profit, stand solid to give up an early profit with the much more specific question of what constitutes an adequate profit.

This suggests the need for some sort of criterion of profits as well-defined quantitative one that can serve as a common denominator for evaluating profits under all circumstances.

A profit criterion is an operating situation which is pointing, every day, toward important purposes.

- (i) To evaluate the relative attractiveness of potential investments, which means dealing with the prospective question, "What should we do?"
- (ii) To measure the effectiveness of management performance, which means dealing with the historic question, "How well did we do?"

The Ethic(s) of Peter's net investment (PNI)

This concept generally is accepted today by professional financial managers as the fundamental profit criterion. The basic concept is very simple, to avoid waste by avoiding potential losses, and to do as well as money itself. Elementary schools for instance teach the principles of simple and compound interest, and even the household citizens have savings accounts. Unless the bank marketing departments are wrong, the public is quite rational in favouring net savings accounts that pay the highest interest rate—i.e., the highest return on investment.

It is unfortunate that the application of this principle has not been widely applied in the operating, instead of planning companies. Only recently has the industry begun to compute PNI as the basic profit criterion. The PNI Basic Studies are extremely well conceived and prepared, serving many their purpose and drawing the attention of all serious financial managers. Yet, they always have referred to the high profit theme—the profit index—in terms of the historical reported or made profit as a percent of sales. Actually, this is a double standard, since, however it ignores the amount of money which was invested to generate that profit.

The misunderstanding, which explains the neglect, arises not by accident but by the usual management practice. In a recent trade journal, an industry financial consultant who should have known better, actually repeated the PNI Basic Studies profit margin and percent of sales rather interest material can be earned on savings account. In several years, PNI has begun to include PNI figures in the Basic Studies. But, they will need to define the "profit before" based on the highest PNI—not on the highest "profit margin."

Computing PNI

In the simplest form—the savings account, for example—PNI is defined as

$$\frac{\text{Interest}}{\text{Investment}} = \text{Return-on Investment}$$

ROA is customarily related about in terms of annual income and an annual rate of return. If the investment in the savings account is \$1,000 and the interest is 10% annually, the ROA is 1% per year.

In an operating situation, the definition becomes little more complex, although ultimately it still works up to the same basic formula. The definition for an operating company is:

$$\frac{\text{Profit}}{\text{Sales}} \quad \times \quad \frac{\text{Sales}}{\text{Total Assets}} = \text{ROA}$$

Profit divided by sales gives the profit margin, a percent of sales—the figure as a whole used in the pricing industry.

Sales divided by total assets gives a figure called "Asset Turn." Total assets are the assets investment—the total bookkeeping of the company—the sales. If sales are \$1 million and total assets \$100,000, the asset turn is 10 times.

Thus, the formula can be restated in these terms:

$$\text{Profit Margin} \quad \times \quad \text{Asset Turn} = \text{ROA}$$

Looking at the first formula, the algebra student will recognize that by eliminating the common numerator and denominator (sales), the equation can be simplified:

$$\frac{\text{Profit}}{\text{Sales}} \quad \times \quad \frac{\text{Sales}}{\text{Total Assets}} = \text{ROA}$$

$$\frac{\text{Profit}}{\text{Total Assets}} = \text{ROA}$$

When interest is considered profit, and the investment is viewed as the total assets, we have arrived at the same formula with a fairly well stated—often over-stated—ROA in terms of a simple savings account.

As an example, let's use a printing company with sales of \$1 million, a profit before interest and taxes of \$100,000, and total assets of \$1 million.

$$\frac{\$1,000,000}{\$1,000,000} \quad \times \quad \frac{\$1,000,000}{\$1,000,000} = 1.000$$

$$\begin{array}{rcl} 10\% & \times & 10 \text{ times} \\ 10\% & \times & 10 \text{ times} \end{array} = \text{ROA}$$

Common Problems

One of the commonest misinterpretations is that accounting figures are absolute values, that least reliable provision. Actually, they are defined values, valid only within the context of their definitions and, consequently, subject to interpretation.

Let us walk through some of the more common definitions of profitability, discussing their applicability to the concept of value in the business.

Net Profit After Taxes

The most common profit figure is net profit after taxes, the figure that is additive for retained earnings of the company. In computing ECF, it should be retained as the norm of the company: certain non-units, called *dividends on equity*, which represent the return to the owners of the business.

Profit Before Taxes

The next figure is profit before taxes. However, taxes are determined by government regulations and, as tax rates change, may vary from business to business. Effective tax rates can be modified by any number of factors. For example, a company may avoid taxes by giving away because it operated at a loss (negative profit) and therefore its profit of earnings before tax has moved forward.

Current tax obligations, when are ordered by tax credits for purchasing new equipment. Some industries benefit from depletion allowances, or tax exempt income. Therefore, after-tax profits are not only just to the owner, effective tax rate.

Current tax considerations as a period of rapid inflation is necessary valuation, traditional accounting has valued inventory on the basis of FIFO (first-in, first-out), which in a period of increasing prices has the tendency to understate the current inventory and overstate profits. The government now permits the use of LIFO (last-in, first-out) under certain conditions, which tends to increase the cost charged to profits and decrease profits, resulting in lower taxes. LIFO also tends to understate inventory valuations on the balance sheet, thereby underlining the net worth of the company.

We can not, for example, say we will not require an opinion about which method of inventory valuation should be used. Rather, we just will point out that the profit-before-taxes figure can vary widely in a company with no changes in operating conditions, merely because of accounting treatment designed to minimize tax obligations.

Operating Profit

The next and, in our opinion, the most important definition from the point of corporate planning, is the operating profit before capital charges and taxes.

This is defined as the profit before taxes, grossed of all capital charges and credits and all non-operating income and expense.

Capital charges include interest paid, such as payments discounts given and notes charges paid. Credits include cash discounts earned, service charges earned, interest rates and are interest income earned.

Capital charges reflect the income selected by the owner to replenish the business and to re-invest against the operating profit, which is the foundation of the business. Capital charges are a first factor of income.

The operating profit is relative operating income in the computation of ECI.

Loss, Depreciation, and Other Considerations

Several other factors must be considered in interpreting the profit figures presented in traditional accounting statements. The first is cost, or loss, charges.

Losses always cost capital charges. That is all that costs losses incur, and there are called net losses. In this situation, the losses on costs all operating costs and the loss is, merely a form of debt. In other losses, varying amounts of operating expenses are included. When costs are found, probability analysis requires that the capital cost portion of the loss be added to operating profits and that the loss must be capitalized and added to operating costs before the operating ECI is computed.

Depreciation practices are another variable. Depreciation is a non-cash charge to earnings to cover the cost of the use of assets over their economic life. Income tax laws, the government requires that firms analyze accelerated depreciation, which reduces the decline and serves to increase cash flows. When the depreciation charges exceed the non-economic cost for the period, the excess depreciation should be added to operating profits for analytical purposes.

In probability situations, there is always the question of where are their assets relative to capital. There are many instances where the owner should not follow. For many losses is made about cost of the owner's capital account, but the problem the cost of the past represents a return on both his time and money. In such instances, it is absolutely crucial that that value cost of time has changed against operating profits. When added there is the return on capital, which is the true measure of profit.

ability. Proper profit analysis cannot be made without taking into consideration these factors.

The technique of defining operating profitability as used in the process of establishing effective profit criteria in this corporation, Figure 4-1 shows in detail the type of analysis that might be performed on a printing company.

a. Profitable from traditional accounting of business

	Profit	Investment	ROI
	Type	Amount	
Operating Profit	\$100,000	Total Capital \$200,000	50%
Interest Charges	20,000	Less: 200,000	10%
Profit from before taxes	\$ 80,000	Equity 180,000	44%
Income Taxes	20,000	—	—
Profit After Income Taxes	\$60,000	Equity 180,000	33%

b. Operating profitability method from adjusted assets

	Operating Profit	Investment	ROI
	Change	Change	
Operating Profit	\$100,000	Total Capital \$200,000	50%
Operating Investment			
\$10,000, of which 10% should not			
It has never been included	+ 10,000	+ 10,000	
Over-investment reported			
which should not be included			
which was included in investment - should not	+ 20,000		
Investment to use			
It includes only	- 30,000		
Net Adjustment	+ 30,000		
Adjusted Operating Profit	\$130,000	Included	
		Total Capital \$210,000	62.4%

Fig. 4-1. Defining the ROI

The facts should be self-explanatory. The conventional adjustment could go either way, but here we are changing earnings because the dollar volume was \$200,000 more than stated under reported statement. Effect, to avoid waste, we can go the other way and take charge because an injury.

When this happens, the amount would be added back to operating profits.

Valuing Assets

Another difficult factor that must be considered in the factor to be used to value operating assets. Accounting statements use a net book value—the cost less accumulated depreciation. If that depreciation charge has been applied until a future date, this figure under states the amount. If the value of the asset has been modified by inflation, the asset will be further understated in value.

Yes, there are investment points of view. In the historic sense, net book value represents what dollars the company has invested in the asset at any time.

Another method of valuing an asset is original cost. This is strictly historic and represents neither the funds currently invested in the asset, nor its current value. Therefore, it has little relevance to the profitability analysis task.

More pertinent as an adjustment to net book values are either market value or replacement value. The first represents the current value of the asset—an equivalent price in the investment market, when faced with a hold or sell choice, market value represents the current investment. If the value is higher than cost, it should be held. If it is less, it should be sold.

Replacement value represents the cost of going into the business for the first time. This is most pertinent in establishing target returns to be utilized in developing pricing strategies. It would be utilized in substantially less than that of a competitor because that investment was made at a different time, or because it was made more wisely. You should be able to make a greater return than he.

In summary, then, the valuation method used affects the content of your analysis—what you are trying to determine. As an operating criterion, we tend to prefer the net book value. However, when pricing, we suggest that replacement value be considered. When evaluating the attractiveness of the company as an investment, the market value seems most valid.

WHAT CONSTITUTES A FAIR PROFIT figure?

Any investor, individual or company, has a range of investment opportunities or alternatives that must be ranked in increasing order of attractiveness, influenced by the investor's personal knowledge

and expenditure. It is further defined for a company by its Statement of Corporate Purpose, where any potential investment must be consistent with the stated policies.

Management is continuously faced with making investment decisions—having to decide “What should we do?” or having to answer the question: “Which investment is best? Which is best for our Corporate Objectives?” This means selecting alternatives from the investment universe. Obviously, one of the tasks for making money is innovation in creating new “options” containing many potentially alternative opportunities from which to choose. But, in all cases, funds are limited and every manager must be selective about, at the same time, recognizing certain fundamental investment principles.

The Concept of Risk and Return

Basic to the investment decision is the principle that the potential return must justify the risk. This says, in other words, that profit is really pursued for risk taking.

As long as the element of risk is constant, the investor will take the highest potential return. Therefore, evaluating the return required must begin with some sort of risk evaluation.

Risk can be subdivided into three elements:

- a) The risk of loss of principal, which means the risk that the invested money will be lost.
- b) The risk of loss of income. In this context, the question relates to the variability of the flow of income.
- c) The consequences of loss. According to the old saying, “It takes money to make money.” The truth is, however, that it takes money to be able to afford loss. Those investors, however, they cannot afford the consequences of loss, will avoid certain risk levels altogether, regardless of the amount of potential return.

The task of assessing risk involves defining the probability of events which, in turn, can be altered by the degree of control the investor exercises over them.

An Investment

A situation in which the degree of risk is small because the probability of events is good and the investor exercises a high measure of control. Even when the investor has no direct control over the internal aspects of the investment, liquidity can

provide him with personal control, so that he can still share events, do not with him. Therefore, market liquidity reduces risk because it increases personal control.

*An intelligent
speculation:*

The degree of risk is relatively greater, but the assets are subject to analysis and the investor maintains some control. The potential profit is sufficient to justify assuming the risk and the investor can still stand the consequences of loss.

*A stupid
speculation:*

The same circumstances as an intelligent speculation except that the potential return does not justify the risk, so the investment is not rational without the consequences of loss.

A gamble:

The probability of the investment either increasing, or totally uncontrollable, is matter of chance.

Remember, of course, that specific circumstances can have different definitions for different people: what may be an investment for one person could become a gamble for another—because of individual differences in knowledge and circumstances.

The amount of time also plays a part in determining risk levels. The longer the time period, the more the uncertainties—because it is difficult to see into the future. Also, the longer the period of the investment, the less liquid it becomes. Tying up funds for a long period reduces market flexibility and increases risk—often by putting big investments into dead-end or more liquid alternatives that others who would have the same risk standing.

Relative Levels of Riskiness and Profit

Active investors will select opportunities with the highest relative returns—consistent with their objectives and ability to assume risk. In a very real sense, therefore, investment opportunities compete with each other, usually for a limited amount of funds. Active investments must offer greater potential returns, to attract funds from less active alternatives.

If funds are recognized if or not, the greater return as a part of the

small-business owners. For long-term survival, public finance has to be made to be used profitably, and this consideration requires a policy of public that is less whether he is competing for outside funds or using his own funds (which could be supplied elsewhere).

The first big technological revolution statistically, "crisis" means, more, although there really is no such thing. There have not been any in the case of borrowing for the third obligation of the United States government, or in foreign savings markets.

The historic pattern seems to indicate that the best solution is to allow it to grow just enough. Added to this is the fact that companies have the existing rate of inflation. This means, for example, that when short-term rates are at 7 to 8 percent, investment rates are higher than that of about 5 percent.

The past two is influenced in the short run by the supply-demand relationship for funds, as well as by government monetary policies. These liquid flow and investment rates at the level of the minimum return are treated should be willing to accept.

The next kind of risk structure, simple, extending structure. The investment has the same government backing, but it is less liquid and subject to the risk of interest in an unknown future. In a normal market, the extended maturity range is premium, which is often progressively as the maturity lengthens.

Finally, the rate of return can be characterized as progress upward with the risk factor.

With other investment opportunities available in his investment universe, what kind of return does a public need to justify his exposure of and his continued existence? The answer is a matter of individual judgment, but it is not unreasonable that, in pure economic terms, the return should approach 10 percent (which has been the major expansion in investment).

You will recall from Table 1-1 that the return earned on the 1981 public bonds was 10.18 percent, which was the average return on the government 10.1 percent of the total time reporting. Thus, the 10 percent figure is not unreasonable and reasonably high. It is an average return.

Public companies, which usually are profitable, are about half of the nation's largest companies, especially indicated on average return of only about 6 percent. The same studies place private industry returns at about the same level but, when the top 10 percent are excluded, the average return is about 7 percent.

Since the U.S. return has been less than the national average,

it follows that the printing industry eventually will have capital problems similar to those of other industries. I will not give significantly toward the going concern capital requirements of a national or regional

MANAGEMENT, 1970, 1, 107-114, 107-108

Will we as Management Executives?

Because most good managers work upward, they often live in an atmosphere in which they are told what is expected of them, and are told what they did relative to expectations.

When performance is based on the law rule, it can act as a catalyst to strategies, motivating them to identify the causes of their problems and to find solutions. This identification of problems in the early stages of development, before they have had a significant negative impact on profits, often makes solutions easier to implement.

The use of a profit-oriented rule in 1970 by all organizations worldwide will to produce actual performance will force management to focus its attention on the important factors influencing profits. Reacting to the early warning signs provided by the first decline in the index, they will achieve and maintain their profits at the desired levels. Also, rather than a situation of performance, there will be an awareness on the part of all managers that results are not satisfactory, that problems must be identified, and that solutions must be found. Management, remember, is performance, not just a good explanation of failure.

As we will discuss in succeeding chapters, the implementation of this type of profit-oriented system requires a good system of responsibility accounting. Each manager must know exactly what revenue and expenses he is responsible for, along with the related cost center, the responsibility of the system into responsibility areas and the associated accounting of activities in regard to the primary functions of the management control system described in later chapters.

Advantages of Management Accounting

Application of the BWA concept to the evaluation of management alternatives comes from the very simple to the more sophisticated, with senior leaders writing about the subject. The financial language of a printing firm should resemble the subject in detail and details for those of the level of sophistication applicable to his particular situation.

There are two basic requirements for any approach. First, an accurate determination of the investment, or capitalization. And second, a forecast of incremental profit, or savings to be obtained in the form of interest reduction.

The two uses of the simplest techniques will dominate management regarding the future economy in the capitalization business. This information, when compared in a consistent manner to the actual or minimum-savings and to other opportunities, will improve substantially the quality of capital investment decisions.

The range of techniques, beginning with the simplest, include:

The Simple ROI Formula

This formula, which is described earlier in this chapter (Equation 4-1), Investment \times ROI, has two major deficiencies—in that all investments will not be profitable. Obviously, the investment will be made at the least end of the prospective interest differential. The return will be more a matter of years, and the amounts for each year may not be even. If the total returns are the same, the investment that yields a fast return receives no more weight than that which gives a slow return with this approach.

The Payback Period

Here is another simple and widely accepted method:

The formula is $P = I/M$, with P the payback period, I the investment, and M the return or profit.

For example, if a given costs \$50,000, with an expected return per year of \$10,000, the payback period will be three years.

By establishing maximum payback periods for certain types of investments, any given investment can be compared to the maximum and to other competing opportunities. The usual provision should be included, provided it has a payback period of less than the maximum.

The payback period has the disadvantage of ignoring the benefits it does, however, place greater weight on the least end of the cash flow. Hence, the investment which returns the funds most quickly will have the shortest payback period.

Some companies use a dual standard by combining the simple ROI and the payback periods. These simple methods are suitable before there are sophisticated (generally subjective) methods to guide investment decisions.

Present Value

This approach, which presents a much more graphic method of evaluating capital expenditures, is based on the principle of the earning power of equal investment sums. Given the choice between a dollar today and a dollar a year from today, someone would definitely taking the dollar today. The economic principle suggesting your choice is that you can invest the dollar today and, at the end of the year have the dollar plus the year's earnings of interest at percent per year for investment annually. In one year this will total \$1.10.

The mechanics of the technique involves the use of present value tables available in a number of financial management books. In the process, the initial investment is converted to its present value using the chosen return. The net cash flows, whatever, usually a stream of earnings, also converted to its present value in a like manner. If the present value of the income stream is greater than the present value of the investment, you have the return earned in its terms of the target return used in the calculations.

For an example, assume the cost of capital, or target return, to be 10 percent. The horizon are 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 years. The present value of the investment is \$10,000 because it is disbursed at the beginning of the investment. Using present value tables, the present value of this stream of income discounted at 10 percent is \$10, 100. This means the return exceeds the targeted 10 percent, and therefore is acceptable.

The formula for present value computations is:

$$P = \frac{R_1}{(1 + i)} + \frac{R_2}{(1 + i)^2} + \dots + \frac{R_n}{(1 + i)^n}$$

P = present value of the investment; R_1, R_2, \dots, R_n = the expected dollar values in each year; i = the appropriate interest rate.

Discounted Rate of Return

This technique is a variation of the present value approach and is based on the same economic concept of the time-related value of money. The object is to find the rate of return that will discount stream to equal the cost of the proposed investment.

In the present value concept, all the variables (cost of return, time, investment) and five of formulas are constant, what you are working is finding value of the formula that is at least as great as the present value of the investment. In the discounted rate of return approach,

the rate of return required as an outcome. With known quantities for the other three variables, present value tables are used to determine the unknown quantity—the rate of return.

Using the same example, the rate that will equate the present value of \$4,500 to the three-year annuity with the required investment of \$10,000 is computed. Another internal calculation with the present value table reveals that rate of return to be that percent. If this exceeds the target return, the investment should be considered.

Cost-of-Capital

A important part of the investment-selection concept is the selection of the return to be earned. A prudent, sophisticated investor often is a judgment decision on the part of each investor. In the present economic climate, however, with existing high interest rate structures, it is difficult to see how any business manager (not capital budgeting) would set less than 10 percent annually.

An alternative to using the target return criterion is to compare alternatives on the cost of capital. If, for instance, present pay 10 percent for new borrowed funds, this would be the cost of capital for borrowed money.

Some managers tend to use the incremental cost of capital for a given project, reasoning that if they are going to borrow on loans they use the specific cost of the capital used as the lower criterion.

Visually, this is not a valid approach. Every company has available a limited amount of economically capital. When this exceeds its limits, companies will either cut back some capital projects or have to compensate for the high proportion of debt on the account, will have to put up higher cost equity capital.

The use of incremental capital costs and such creates an artificially low cost of capital criterion when debt is available, but also creates a rather reliable criterion. When all present money is available, low return projects will qualify. However, a few months later, the only funds available may be at 10 percent. Here the projects that qualified a few months earlier are no longer attractive.

The Pool Concept

There is the answer to the problem. Rather than thinking of capital as an incremental cost, think of it as a pool with a weighted average cost. (Hereafter if we will discuss that subject in detail.) A simple example of the computation is given at this point.

Ratio	Estimated	Interest Cost	\$200,000 or 10%
Equity	Primary	Earnings Target	\$50,000 or 25%
Total Capital	Secondary	Total Return	\$800,000 or 120%

The Importance of Consistency

As you approach the task of analyzing capital alternatives and begin to understand the various techniques, you will realize that there are few absolute "right" answers. For you, of course, attempting to select the technique most likely to yield a true measure of profitability in the circumstances of the specific projects being analyzed.

Under any type of situation, consistency is far more important than absolute accuracy. By using the same techniques over an extended period, you will find that various sets of techniques are comparable to past and projected results. The using a consistent set of rules, all alternatives will be judged by the same standard, providing the fairest measure possible. Not only can you compare alternatives directly, but each the standard as the consistent criterion, all alternatives are compared to directly regardless of when they are actually evaluated.

Industry Statistics

Figure 6-2 is an R&D chart taken from the 1976 briefing for Chemical American Bank Studies. The chart is an excellent presentation of the elements that go into R&D. The figure themselves were used as a guideline for my project working on his own R&D analysis.

Figure 6-3 is the first published in the same case studies, in which the meaning of the chart is discussed. It actually gives separate a good look to the financial affairs of the industry, but gives the author's viewpoint on the use of R&D.

"The only point to this analysis with which we differ slightly is the latter most method, which is not beyond the 'a' level in the sense that private management firms showing a good return are represented with a plant that is relative; however it always relates income to the original investment."

The chart includes this in good measure, but before, instead, in the first statement that "the first third method is simply looking at the new return measure interest." The latter is simply the gross profit method that you are doing a working value against equipment—assuming as if it were new, and thereby showing how the value is lost. When you compare it to a new piece of equipment, use as

Return on Investment (ROI) Chart



Component	Value	
	Target	Actual
Sales Volume	10.00%	10.00%
Price Realization	5.00%	5.00%
Costs	5.00%	5.00%
Operating Expenses	5.00%	5.00%
Interest Expense	5.00%	5.00%
Income Tax	5.00%	5.00%
Depreciation	5.00%	5.00%
Amortization	5.00%	5.00%
Provision for Bad Debts	5.00%	5.00%
Other Income	5.00%	5.00%
Other Expenses	5.00%	5.00%
Net Income	5.00%	5.00%
Return on Investment	15.00%	15.00%

Fig. 1-1 Return on Investment Chart

Information Systems Management, Inc. is a leading provider of business intelligence & analytics training solutions & services.

Return on Investment

Figure 1

Mathematics and Measurement: In Mathematics, students will demonstrate understanding of the meaning of the terms: number, measurement, and data. Students will be able to identify and label a number of items, recognize the number of items in a group, and use the number to represent the quantity. (See the Appendix for more information.)

Butler says that children's behavior, whether good or bad, always is a result of what is being done to them by the environment. Behavior that is rewarded tends to be repeated, and behavior that is punished tends to be avoided, she says.

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Scenario 1: 1 Average of 10 years		Scenario 2 Average 10 years	
Scenario 10 years	Scenario 10 years	Scenario 10 years	Scenario 10 years
Scenario 10 years	Scenario 10 years	Scenario 10 years	Scenario 10 years

[illegible]

By 1990, the United Nations estimated that the world's population would be 5.5 billion, with 2.5 billion living in urban areas. The United Nations predicted that the world's population would be 6.5 billion by 2000, with 3.5 billion living in urban areas. The United Nations predicted that the world's population would be 7.5 billion by 2010, with 4.5 billion living in urban areas. The United Nations predicted that the world's population would be 8.5 billion by 2020, with 5.5 billion living in urban areas. The United Nations predicted that the world's population would be 9.5 billion by 2030, with 6.5 billion living in urban areas. The United Nations predicted that the world's population would be 10.5 billion by 2040, with 7.5 billion living in urban areas. The United Nations predicted that the world's population would be 11.5 billion by 2050, with 8.5 billion living in urban areas. The United Nations predicted that the world's population would be 12.5 billion by 2060, with 9.5 billion living in urban areas. The United Nations predicted that the world's population would be 13.5 billion by 2070, with 10.5 billion living in urban areas. The United Nations predicted that the world's population would be 14.5 billion by 2080, with 11.5 billion living in urban areas. The United Nations predicted that the world's population would be 15.5 billion by 2090, with 12.5 billion living in urban areas. The United Nations predicted that the world's population would be 16.5 billion by 2100, with 13.5 billion living in urban areas.

Abstract

DATE	DESCRIPTION	AMOUNT	BALANCE
1/1/2018	OPENING BALANCE	100.00	100.00
1/15/2018	PAYROLL	50.00	50.00
2/1/2018	RENT	20.00	30.00
2/15/2018	UTILITIES	10.00	20.00
3/1/2018	INSURANCE	15.00	5.00
3/15/2018	SALES TAX	5.00	0.00
4/1/2018	CLOSING BALANCE	0.00	0.00

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On the occasion of the 100th anniversary of the founding of the Republic of Poland, the Ministry of Culture and National Heritage has organized a series of events to commemorate the centenary. The first event is a concert of the Polish National Orchestra, conducted by the composer, on the occasion of the 100th anniversary of the founding of the Republic of Poland. The concert will be held in the Concert Hall of the Polish National Opera and Ballet, on the occasion of the 100th anniversary of the founding of the Republic of Poland. The concert will be held in the Concert Hall of the Polish National Opera and Ballet, on the occasion of the 100th anniversary of the founding of the Republic of Poland. The concert will be held in the Concert Hall of the Polish National Opera and Ballet, on the occasion of the 100th anniversary of the founding of the Republic of Poland.

They complemented the "old ways" of thinking and the "old" numbers. The EPA studies would be more direct in some cases, measuring "actual" emissions from the cars, and less "pollution potential" based on the "theoretical" use of the cars.

[illegible]

The "gold standard" used above is based on empirical evidence.

Students are encouraged to research the history of the area and the role of the military in the development of the city. The project is designed to be a multi-day activity, with students working in groups to complete the project. The project is designed to be a multi-day activity, with students working in groups to complete the project.

[illegible]

Continuously monitored from space, the NOAA SeaWiFS instrument can detect the presence of phytoplankton blooms and the amount of chlorophyll *a* in the water column. The SeaWiFS instrument can also detect the presence of cyanobacteria blooms, which are harmful to humans and animals. The SeaWiFS instrument can also detect the presence of oil spills and other marine pollution.

There is just one catch: the researchers found that the more people who are involved in the decision-making process, the more likely they are to make a poor decision.

while the gross investment and the net investment are the same, the old equipment is going to look less competitive than it actually is.

We believe that if new equipment is to be justified, it must receive credit on its cost as old equipment is wearing on its existing investments. The market place ultimately determines the competitive value of equipment, new or old, assuming that the most efficient equipment sets the selling price in the market place, new equipment, when sufficiently efficient, will sell substantially more on its cost than will older equipment on its net investment. Until that condition exists, the manager should stay with his old equipment—if, of course, it is mechanically sound.

Using this type of analysis, every manager is encouraged to compare his own best figure. Then, using this to evaluate lower capital investment alternatives, as well as current operating needs, he can begin the task of profitably suggesting his company's BCF.

Summary

A profit return is needed to refer to productive capital expenditures decisions (What should we do with our money?), and to act as a management benchmark (How well did we perform?).

The basic profit relation in the Return on Investment (ROI), For Every dollar's simple task, the application of concept requires skills to understand and apply properly. Nevertheless, this necessary part of the Corporate Plan, the vehicle is, there is no way to evaluate decisions or performance.

The discipline of gathering the facts necessary to apply ROI in a given situation will improve business thinking, because it is (the manager's awareness of goals and of what is required to maintain them at satisfactory levels).

A fundamental question in developing the Corporate Plan is the determination of the target profit level. This is a matter of individual judgment. However, the prudent manager's judgment is affected by the return that he can get on other types of investment alternatives. These other alternatives constitute an investment universe.

Types of investment alternatives that the risk involved is significant in capital.

OPTIMUM SIZE AND GROWTH RATES

Seeking Realistic Goals

The years since the end of the Second World War have produced unprecedented prosperity in the United States and the rest of the free world. It has been an extraordinary period in which business has been made and affluence has become as widespread that nations even long regarded as underdeveloped are now posing problems.

This unusual period of prosperity has inspired a very questionable economic psychology—the so-called “growth cult,” the belief, or obsession, of which is symbolized by the term “investment performance.” The more growth, the better; big is their strategy for good, and strategy with the tendency to make business leaders are dismissed as conservative old fogies who aren’t “with it.”

The clipping below (Fig. 7-1), from the June 11, 1974 issue of *Fortune Magazine*, shows how supposedly shrewd managers and investors can get misled even by scientific claims. This is meaningful when you realize that the Johnsons (that affected the president of France also indicated a number of printing industry managers.

At the same time that France was being tested, a number of printing manufacturers and managers have high technology, ignoring those manufacturing equipment and still in the public, whether aware of commercial operations that led to the downfall of France.

The depressing, pessimistic events of 1974 began to bring business managers back to focus. For it may be said that ultimately come to a whole is probably a good thing. At the very least, it reminds us that while expansionary goals may be valid, they must be accompanied

for a realistic appraisal of operating, financial and market conditions.

Reaching the Right Balance

Decisions must be measured in terms of long-term profitability—and sales, or even gains, are short-term profits generated by unethical opportunities. Give that the right kind can be profitable, otherwise, that growth you see is not always a virtue. In history classes, especially, unethical attitudes tend to lead to an expansion of business beyond capital and management resources and a consequent crash of the market.

The danger of overexpansion, as well, is often unrecognized. The price of aggressively lead by not taking advantage of solid growth situations, or of being too slow to compete effectively, can likewise be great. A balance must be struck.

An emotional appraisal of size and growth is not constructive, whether it is an overemphasis on the threat of economic crisis, or an unreasonable fear of size as risk, expansion or competition.

Size and growth objectives must be achieved objectively, without government or emotional bias. Everything has an optimum size or, more precisely, a range in which the optimum size falls. A printing business, which is no exception, must have the pertinent question: How is optimum size to be determined and how should it be introduced into the Corporate Plan?

First Factor

The first step in determining the optimum size is to determine the size of the potential market for the company's production activities—the market situation discussed in Chapter 6. Obviously, even if a company is in the unusual position of having no competitors and controls 100 percent of its market, it can never bigger than the market itself. Therefore the next step is to determine the size of the market that is company size inevitably expect to obtain and hold.

Key Critical Volume/Capacity Relationship

With this information, the task becomes one of maintaining the capacity of the company in harmony with the volume that it is successful in generating—in, with its market share.

Industry statistics reveal that size is not a more important factor in determining the profitability of a printing company—there are profit-

with small firms and probably large ones. Most unprofitable manufacturers must leave their plants and to eliminate the need to secure capacity relative to the volume they can sell at reasonable prices. While there are other factors that contribute to profit problems, balanced among them is an imbalance in the volume/capacity relationship.

The volume capacity is as important in profitability as that pricing companies work on effectively their strategies, bringing down on the average less than 5 percent of every sales dollar in profit. A firm generating more than 5 percent is considered very profitable.

There are industries where fixed expenses—those that do not vary with volume, such as rent, depreciation, management salaries, etc. Because of competitive pressures, the established pattern of these expenses cannot be passed on to the customer at higher prices and, therefore, they must be taken out of profit. But where profit margins are small in a fully utilized plant, there will not be sufficient profit to absorb the other overhead when the plant is underutilized without plunging the company into the red.

The Platoon Photographs

The optimum size for a printing plant can be decided according to many photos (Fig. 1-1) which determine if the volume at which maximum additional capacity is required can be supplied. For instance, the addition of one employee in a 10-man shop represents a 10 percent increase in capacity. The additional cost each person representing two such person-operations represents a capacity increase of 50 percent.

Profit margins at the low end of each photo will tend to be lower because there is less volume to absorb fixed expenses. As volume increases to the high end of the photos, margins tend to increase because fixed expenses do not tend to increase as much. When a company knows one photo because of experience, it is compelled to work for the next.

Photo 1: The very small operations, with up to about 10 employees, this group includes 50 percent of the firms in the industry. Almost always owner-managed, these operations require very high capital investment. Management skills are minimal, and the proprietor is usually sales or production oriented, with the business designed to provide a good income for him, not an annual volume perhaps up to \$500,000 to \$1,000,000.

Photo 2: Above the Photo 1 range, there is a tendency to

SIZE RANGES		PROBABLE STAFFING AND CONTROL PROBLEMS	
NUMBER OF EMPLOYEES	REVENUE		
1-25	less \$25	Flexible	—General Policy in Market
		Control	—Subsidiary to Market shifts
26-50	25-50	Flexible	—Management Policy through market
51-100	50-100	Control	—Instruments and control problems
101-250	100-250	Flexible	—Management through experience
251-500	250-500	Control	—Organization and integration problems
501-1,000	500-1,000	Flexible	—"One man show"
1,001-2,500	1,000-2,500	Control	—Staffing problems

Fig. 1-4. Characteristics of Size Ranges.

(Source: *Small Business Administration*.)

progress up to the 50-100 million level, where there may be as many as 10 to 25 employees. The transition is difficult because increasing size involves more complex management problems. While still possibly owner-managed, the top man usually becomes owner-manager. Thus, the owner must make life as owner of an administrator and the business more capital intensive, requiring good marketing and financial management alongside traditional technological skills.

Phase 3. Above Phase 2 there is a large transition, and the 50-100 million range is full of business companies now having trouble with the equipment and management resources that gave the starting of trade. Yet, it may be too large to enjoy the flexibility and low overheads of the smaller specialty operations.

Phase 4. Here are the very large companies. Beginning at the 100-200 million level, they move to a new level of the big thing several hundred million dollars in business. Even in the large companies, few individuals exceed 100,000 dollars. The companies in this range are well established manufacturing organizations, requiring well developed management organizations.

Other Factors Influencing Size

Finding the right size for a product/producer is not straightforward work. In addition to the size of the market and the producer's potential share of it, there are a number of other factors that affect size, in terms of both upper and lower limits. Take the weather, for example: weather is not under the control of the producer, but there are a number of things that must be dealt with. To ignore them is to derive one's own risk.

Perhaps the most important factor is the nature of the product itself. When the product under a small and a medium-sized producer and maker is probably will be best handled in a smaller operation. Conversely, larger jobs, particularly those that are in a degree of standardization, usually can be produced more economically in a larger plant.

Standardized products best suited to small plants are clothes, instant growing and manufactured specialty work. Books and magazines were also handled more efficiently in large plants. This is how, really, the way the industry has developed. Even the largest national food printers do not have large centralized plants, because, with so many small, custom orders, there is too much of a need. The computer has, instead, a large number of smaller plants around the country in strategically important locations.

In instant printing, location is an important factor, providing one does not think just of a product. Few print has enough business support to single large operations and still maintain the convenience of geographic proximity.

A final example is the specialty commercial printer producing high quality advertising pieces, programs, invitations and brochures. Although quantities need to be small, such pieces require a great deal of individual attention. In that special situation, large-scale activity can be a disadvantage because of the more complex control problems.

On the other end of the scale, the vast majority of books and periodicals are manufactured in the larger firms, most of which operate at least on a regional basis.

Another factor limiting size is the elasticity of the market—the degree to which the market incorporates price level changes. If a small price change produces a big shift in volume, the market is considered elastic.

Small price changes are supported by efficiency improvements. Lower price margins will result. The limiting factor in using price to increase market share, and thereby size, is profitability. There comes a point, evidently much lower than most people realize, (judging from

indirect selling positions, when the price reduction necessary to attract the volume is so great it is not worth it.

Minimum Capital Requirements

Every company is limited in size by its management, management talent and capital. And every management team has a limited perspective on a company's growth; management's capability must grow with it. If the company outgrows its management, there will be a gradual loss of control and, eventually, a decline in profitability.

Also, less business management is rewarded at one time, placing a limitation on how much the different problems associated with a larger operation. Management capabilities must be constantly evaluated and plans made to upgrade key people in advance of growth efforts.

Laboring labor is not an unlimited resource. The highly technical printing industry requires skilled craftsmen and technicians to produce good quality work at efficient costs and a short time to make such a work item.

Finally, capital is a critical ingredient. Increasingly owning a business is difficult enough when a company is properly financed, it is virtually impossible when it is undercapitalized. The size of a company cannot be permitted to exceed what which its capital base can support.

The Lower Limit

This limited the optimum size range is not by the degradation of a minimum company size—the smallest unit that can be operated and still be competitive and profitable.

Carrying the last picture, the smallest printer needs at least one press, some floor space and one person—a configuration creating a minimum expense level that must be recovered through a combination of price and volume. If the printer feels that he cannot meet competition without the business he felt, photo makes money, or delivery schedule, he must add them. Implicit in his decision may be that tomorrow he must be larger than a one-man shop.

The concept of minimum economic unit applies to all products and markets. For instance, the minimum size of a retail store is much larger than that required of a wholesale operation.

Consequently, a printer must have a certain minimum size to compete in a given market. If he cannot get adequate volume to justify that size, he had best continue into that market, ignoring this principle.

ple is the reason that that company is the CFT's favorite way to be introduced to providing field experimental financial literacy. The equipment alone created fixed overheads of about \$100,000 per month, which, when combined with personnel and corporate costs, placed the minimum breakeven point at well over \$200,000 annual volume. This is a lot of equipment and they did not have the sales lines and sales resources to quickly generate such volume. In effect, the volume they could generate and handle was well below that required by the minimum economic cost.

PROS AND CONS OF BURE

At this point it should be quite clear that managers must be concerned with understanding the options and consequences of their decisions. Further, all can easily agree that when a company is facing the options and some alternative decisions to change the situation must be made—either to make an effort to grow into the economy or to merge or to select another business or to discontinue operations.

Once the company has found a way that its shareholders take its marketplace, it is in the terrible position of having to consider such alternative growth decisions. It then can take advantage of capital facilities without feeling compelled to do so.

While most firms are stuck in the direction of increasing size, it might be worthwhile, for a moment, to examine the advantages and disadvantages of being smaller, or larger. While a number of small businesses are provided with smaller size companies, there are some very effective strategies.

The major weaknesses include:

Financial limitations

Usually, the small business has more difficulty in attracting capital than the large business. Banks are not as likely to provide more lines of credit and interest rates are often higher on equipment loans or loans. It is very difficult to raise equity capital without going up market. Additionally, most small companies do not have financial resources to hold their own lengthy loans, or to provide a margin of error. One large example, going, but has been known to get a small business, there is for the money.

Management limitations

The small business cannot afford a staff of specialists to deal with the various functional areas. The manager, therefore, must be much

more feasible. Here, when he has seen the management talent, he may have difficulty paying the salaries necessary to attract the best people. This problem can be overcome by the manager who is an effective leader: "Some competent people prefer the small company atmosphere and will work for less" if the climate is right.

Finally, because he is forced to concentrate on day-to-day problems, the small business manager may have difficulty handling tasks and looking at the company objectively and performing the planning function.

Higher Costs

Larger companies can often use their buying power to obtain lower prices on materials, machinery and supplies.

Low-Quality Management

Because the small company deals with lower products and customers, it usually is reluctant when something bigger is one of the important "eggs in the basket."

Image

Small companies have difficulty, particularly with large customers, developing the positive image of an ongoing institution. It must stress the personality of its owner. For this reason, some large buyers have a policy of buying their purchases through persons around either supplier's total business—because then the total credit obligation is less dependent on them.

The major strengths include:

Greater Flexibility

In a big business, where there is a tendency to build a bureaucracy, decisions must be made through channels, which can take time. On the other hand, a small businessman, made aware in the owner, with fewer people to consult, can make decisions and take action rapidly, often gaining an important competitive advantage.

Greater Control

The small business manager can be close to the action, more motivated by channels of communication through numerous layers of management, and usually he does not have to contend with geographic distance. In short, he can have a first person relationship with most of the important assets in his company.

Personal Perks

The greatest advantage of the small businessman is his ability to satisfy a personal need in both business and enjoyment. Many manufacturers pay a premium to deal with customers they like and trust and give them personalized attention. This is particularly true in printing.

Lower Risk

While the potential rewards of size may be greater, the risk of failure is also more pronounced. The larger company usually is dependent on a larger share of the market. It is playing for higher stakes, but mistakes will be more costly.

In summary, the printer must be conscious of the opportunities for his particular company in the market, be aware of his limitations beyond this size without under risk. He also must be particularly sensitive to his resource limitations—management abilities, labor pool and capital.

While competition is a natural fact, the small businessman should not allow himself to get discouraged. He must look forward, not backward. He must keep looking forward, look back and realize that smallness has its advantages.

THE OPTIMIST AND THE PESSIMIST

Within the range of optimism lies, there is also an optimism gone too far. Bold and profitable growth, a valid objective, but it should be well planned and must be consistent with resource limitations.

It must not be ignored is that growth implies other profit problems. Managing a larger business is more difficult than managing a smaller one. Consequently, efforts to grow should be preceded by the building of a sound foundation, namely a good profit record built at the existing size.

When overexpansion does take place, the market warning signs generally will be a shortage of cash, because rapid growth requires more cash than the operations are generating. Other internal trouble signs to look for include confusion, loss of control, excessive stock dilutions, declining efficiency, mutual distrust, declining quality, loss of key personnel and increasing customer complaints. Management must be sensitive to these indications that things are heading too fast and it must react to them.

But, one of the intentions of any business is to perpetuate itself – at least temporarily – that it can without maintain the status quo. There are several factors shaping an owner's behaviour, probably more easily dealt with when running to get ahead. The danger is trying to stay there is that you may end up running a large boat falling behind. Behind the politicians that profess a computer should be a rapidly changing technology, is that of present and product life cycles.

Defining the Identity of Products

Every product has a life-cycle as to how it is developed, matured, its maturity relative to cash flow. When a new product goes through its immature or development phase, it requires an input of cash to finance its growth. As a successful product matures, it moves into a break-even situation, and then, as it reaches full maturity, growth rates normally decline and profit margins widen. During this period, the product is self-generating cash resources of its development requirements. Eventually, most products lose their profitability.

Cash Cows and Stars

Any given company has a portfolio of products in varying stages of maturity. Ideally, it should consist of a good base of mature "cash cows" generating the excess funds for financing the less developed products – the "stars" which will determine the profitability of the future.

Initially, a company wants as few products as possible that neither generate cash nor drive losses; provide a company maintains a portfolio of cash cows without any stars on the horizon, its future of continued performance, especially company will look extremely problematic without serious, it will be headed for trouble. This happened for the case with a number of the old line printing companies which do not finance the ultimate economic demise of their products and make no provision for successor products. Therefore, when the inevitable happens, they are disappointed. At best they go through a difficult period of readjustment. At worst, they do not survive.

At one time, in the print world it's, International was a real cash cow; that there was a need for replacement was. Companies that did not introduce when during this time found themselves in trouble in the '80s, as their cash was decreased and there had no ready substitutes.

This suggests that some growth is necessary if a company is to survive profitably. The question is: "How much growth?" The answer

"Though to keep new products coming on line but not enough to jeopardize control and the financial condition of the business."

Management must recognize two basic facts that limit growth rates:

1. The faster the growth rate, the more difficult it is to maintain profit margins.
2. The faster the growth rate, the greater the demand for capital.

The Difficulty of Maintaining Profit Margins

As the rate of high growth rates, a number of factors make the maintenance of profit margins more difficult—the most important of which is maintaining control over the operations. The larger the business, the more difficult the control problems. Moreover, the rate of change will magnify the control problems related to size.

Control, which automatically limits a total organization working as a team, requires time. In a carefully structured program, each manager must be thoroughly trained in the basic management techniques or fundamentals, and the organization must have a hierarchy with individual's efforts in those of his subordinates, given and expected. This requires specific job descriptions that assign responsibility and authority and make clear the channels through which communication.

Growth introduces more layers into the team. The rate limit of effectiveness in doing without adversely affecting profit margins will vary with the strength of the organization and the complexity of the business. There is no single formula for all organizations.

Problems of Expansion

Another important problem is that at any given time a company must have the best people it can find for the management positions. Expansion requires the additional new people, which may produce a diluting effect on the quality of managers. If an exception occurs when growth permits the addition of a key man who previously could not be justified.

The plateau phenomenon described earlier suggests that expansion of management to another plateau initially requires an increase of management capability, resulting in increased overhead and lower profits at the low end of the plateau. If management is successful, growth will follow and profits will increase until the higher end of the plateau is reached. (Fig. 7-12)

As new experienced employees are added, however, a marked

decrease in labor efficiency and serious decline in initial profit margins can be expected.

Because of the piggyback nature of the pricing method, profitability requires a high utilization of capacity. Major pieces of equipment, for example, must be operated on at least two shifts. If not, the capacity must be purchased in large units relative to the demand for the product. A single piece might increase capacity 25-50 percent in a given company. Meanwhile, the volume to use the equipment must be obtained soon after the equipment is up and running. Because of these requirements, there is usually a period of low utilization, gradually building towards capacity—a process that naturally will have a negative effect on earnings.

Pricing levels also are a less determinant of profit margins. Obviously, it is difficult to maximize the price when a product is leading, but substantially more volume flows tend to be lost at the low end of the price range at the high end.

The negative description of the problem of expansion is not meant to indicate that growth is not ultimately satisfied. Indeed, it is meant



Fig. 1.4. Profit margin, market share

(Source: J. R. Smith, *Profit Margin Analysis*)

in explaining that growth must be measured in terms of profits, not sales, and that rapid growth—large growth rates—can have at least a short-term effect on profit margins and perhaps on profit themselves.

The Cash Flow Problem: The Growth Rate Question Capital Demands

The first real question is: How much capital is required to finance expansion?

Our experience has been that for every dollar of sales, a printing business requires about 1/10 of net working capital—net sales and inventories less trade credits, accounts receivable and prepaid book orders. It is doubtful that this rule could go in the other direction in terms of undercapitalization. It may go as high as 10% if the work requires large inventories and long production cycles.

Capital equipment also must be considered. Our experience has been that for every dollar of additional capacity, about 1/10 is needed for equipment. For smaller, labor-intensive operations, this figure can be scaled down. In automated capital-intensive operations, it can be doubled.

The second real question is: "How much cash can operations generate?" Implicit here is the basic premise that all funds ultimately must be provided by the operations. One can borrow to expand, but this will make a claim on future cash flows.

Check the Cash Flows

We have placed growth rate tables in the appendices. First, we assume that the cash flow from operations is represented adequately by the reasonable assumption since the FCF 50s Ratio Studies indicate the following cash flow margin:

	all firms	Profit Leaders	all ratios
Operating Income	\$1,000	\$1,500	\$1,000
Minus Dep. Inv. Exp.	\$100	\$100	\$100
After Dep. Operating Income	\$900	\$1,400	\$900
Depreciation	\$100	\$100	\$100
Cash Flow Margin	\$100	\$100	\$100

We consider this 10 percent as attainable on the assumption that most firms probably had some growth experience and that the most profitable of the profit leaders were above the 10 percent average.

We make the further assumption that new volume will require a

minimum were borrowed of \$5 cents for every dollar of volume added. The 1975 Ratio Studies indicate that printing companies average about 25 cents of net assets at risk for every dollar of sales. That we estimate that the industry is operating at no more than 50 percent of capacity. If the investment were more fully utilized, the figure could be reduced to the \$5 cents we used in our example. Figure 6 presents the possibilities of growth in the most favorable light.

Table 7-1 Growth Rate/Assetization as margin
(all figures are % of sales)

Asset Ratio	50	75	100	125	150	175
1975 Ratio Studies assetization	25	38	50	63	75	88
Asset requirement for volume additions	0	1.25	2.50	3.75	5.00	6.25
Asset ratio margin	25	37	48	59	70	82

Table 7-2 Assetization—average assetization 25 cents and the
margin for every 75 increase in growth

Assetization	50	75	100	125	150	175
1975 Ratio Studies assetization	25	38	50	63	75	88
Asset requirement for 75 increase in growth	0	1.25	2.50	3.75	5.00	6.25
Asset ratio margin	25	37	48	59	70	82

Table 7-1 leads to the conclusion that the most probable financing will support a growth rate in excess of 11 percent annually. Table 7-2 adds the assumption that there will be a reduction of 1 percent in the cash flow margin for each increase of 5 percent in the growth rate when margins are more difficult to maintain as the growth rate increases. If this is valid, the least assumption that can be internally financed is just over 10 percent. For the average firm in the industry, the cash flow margin of 4.85 percent would permit growth rates of no more than 7 to 11 percent, depending on which table is used.

Now let's apply these tables to a specific company, doing a volume of \$5 million. If it were a profit leader, it could be generating up to \$20,000 in cash before income available payments. At a 11 percent growth rate, it would require \$10,500 of new assets and less than \$200,000 in fixed costs. If its margin produced only \$500,000 of cash, then it would be about \$60,000.

As the growth rate increased, so the margins shranked. It is possible for the company to come up short as much as \$100,000. It is these kinds of figures that bank companies and city growth rates must have carefully considered when constructing a Corporate Plan.

The Effect of Price Debt

There clearly also comes an price debt: 1) unaccounted cash available to support operations is reduced by the other two out of interest and field expansion obligations. Initial financing may be the source of financing a period of growth, but the effect will be increased later growth outside debt has been repaid or used the company can justify further financing. From this, we derived below is: obligations are capital and growth limitation of inflation at a rate of 10 percent annually.

A Further Word About Deflation

Inflation also dollar assets are unaccounted for inflation investment in working capital. If a company with \$1 million in cash has inflation pressure of 10 percent annually, cash value will become \$100,000 and require additional working capital, according to our formula, at \$1.1 million. If the company is generating 10 percent cash flows, this represents an unaccounted share of 10 percent of the cash generated. This may be manageable for a profitable company with a strong balance sheet, but for a company with poor cash flows, or one already highly leveraged, with little unaccounted cash, it can be a real problem. It can even be fatal.

Other Cash Issues

The (profitable) company wishing to expand has other potential sources of cash. The first place to look is on the company's own "balance sheet." all assets—current receivables, inventories, buildings, and equipment—should be examined to see how they are being managed effectively, or related to their capacity. Poor billing or collection procedures, for example, can significantly increase the cash flow. It is certainly possible.

In terms of investment, it is much more efficient to upgrade existing equipment or fix it than it is to build new equipment. Before adding new space, be sure that there are no deadends or hidden areas of equipment occupying valuable floor space.

Another area to look at is increase cash obligations. We know a number of patients who have been using long term small straight line

depreciation immediately shows savings. In Singapore, they are paying income taxes continuously, and are reducing their cash flows.

The following example, using a \$62,500 price, illustrates the impact of depreciation methods on cash flows:

TABLE 21-1 The Impact of Depreciation Methods on Cash Flows

Year	15-year		5-year		MACRS	
Method of Depreciation	Straight Line		Straight Line		Modified Accelerating	
Depreciation:						
1st year	41.7%	\$26,042	20.0%	\$12,500	33.3%	\$20,833
2nd year	27.8%	\$17,368	20.0%	\$12,500	44.4%	\$27,778
3rd year	27.8%	\$17,368	20.0%	\$12,500	33.3%	\$20,833
4th year	27.8%	\$17,368	20.0%	\$12,500	0.0%	\$0.000
5th year	27.8%	\$17,368	20.0%	\$12,500	0.0%	\$0.000
Total	100.0%	\$62,500	100.0%	\$62,500	100.0%	\$62,500

Over a five-year period the 5-year life would provide an additional tax shelter of \$13,333 relative to 15 years; the rate would result in an increase in cash flow of \$6,667. Use of an accelerated method of depreciation would provide an additional tax shelter of \$6,667, for a total of \$13,333 more than the 15-year life and the straight line method. This is additional money—made lost to the company simply because of the way taxes are computed. But this effectively is only tax deferral, because the taxes will still be due, just will be shifted by four tax dollars in later years. Cash on hand, however, has starting power.

Other considerations involve the disposal of obsolete equipment that is not totally depreciated and inventories that have little likelihood of being used. In such cases, the disposal and writing off of the equipment shows no credit in immediate cash flows to personal tax liabilities.

CONCLUSIONS

The glossiness of growth notwithstanding, equity investors ought not be lulled by a realistic appraisal of existing financial and market conditions.

The optimum size for every business, which must be determined

an objective, measurement measure, which externally to market size and share, as well as to the nature of the product. Internally it is constrained by the company's resources—management, labor, and capital—that it must be about the size of the minimum economic unit.

Smallness is not bad per se. There are advantages to being small and many small printers prove this by their profitability.

Related to this optimum size is an optimum growth rate, which is constrained by management's ability to maintain profit margins and the company's ability to generate cash to pay for the assets required by expansion. In the printing industry, this rate probably cannot be sustained at above 10 percent per annum, exclusive of inflation.

CAPITAL STRUCTURE DECISIONS:

Financing the
Corporate Plan

The first three elements of the Corporate Plan—market selection, profit criteria and optimum size—lead directly into the capital decision. The last two—capital structure and organizing a management team—lead to the corporate objective to achieve the objectives.

In short, the three ingredients necessary for a successful venture are: a business plan existing in product or service that fulfills a need; adequate capital; and management competence. It is difficult enough for a pioneer to operate successfully when he has adequate capital, when there is insufficient capital there is little chance for success.

The real aspects of business failure, as that, occur because of inadequate capitalization—a term that refers usually to the manner in which the pioneer has raised his funds and allocated his profits. If he has borrowed too heavily relative to his equity capital, or if he has borrowed too heavily into obligations of interest or principal payments, or just generally cannot meet his obligations when they come due, he is undercapitalized.

A company becomes undercapitalized for one or both of two reasons. The first, which is the general kind of error, is that the company began an expanded venture obtaining adequate capital either out of ignorance of capital needs. It is a mistake because the manager presumably had the option of not moving ahead if he had recognized the capital problem.

The present situation arises when capital is depleted due to operating losses. Good management can avoid this condition, but because the company often is locked into circumstances, it can be difficult and it may take time to work out the problem.

ADDING-DEPLETING THE WORKING CAPITAL

One operation must have assets with which to work. The amount paid fixed working with the net asset nature of the business.

Normally, a growing business will require the following kinds of assets. First, working capital:

Cash

From a strict debt viewpoint, the ideal cash balance is always larger than cash due and more income. In other words, ideally there should be a gradual accumulation of the timing of inflows and outflows. However, since this does not happen, there must be sufficient cash to pay out the leveling out of dispositive business inflows and outflows. Availability of cash also permits a person to purchase materials in optimum quantities and on discount terms when offered, both of which can significantly reduce operating costs.

Another reason for keeping a sizable cash cash or liquid assets is as an opportunity or contingency reserve. Most companies do not have the luxury of funds lying around unused "just in case." It has that as priority, however, it adds to the financial strength of the operation.

Finally, many banks, as part of their loan terms, require maintenance of compensating balances which usually are figured on the basis of outstanding a certain period of time. In the developing and management practices, it should be assumed that banks will compute balances based on stated assets—not the balances on your books. The difference is called "float"—money checks that have not been presented for payment.

Inventory Receivables

From handling of credit extended to customers where a job is in progress can be lost. Before any transaction is made, a company should be thoroughly investigated for credit worthiness. Total amount of credit extended should be closely controlled—particularly when the accounts represent significant portions of the printer's net worth. Question the proposed clients. The experienced customer with nothing to hide will be more than happy to provide information and references.

Equipment—the machinery, pumps, bladders, etc., used in the operations.

Assets Required

The current and fixed assets required are determined by the distribution of work between, depending on the bill rate ratios, bladders, the average net asset base for all three, was 1.78 times—meaning that value was 178 percent of total net assets. Taking the average of these percentages, it takes 18.8 acres of net assets for the average bladders to produce \$1 of value.

The figure does not change significantly for the assets produced bladders as opposed to the average bladders. It has been of quite constant over the last few years but it does, it means, vary significantly, from time to time. The more labor intensive, less automated bladders will have substantially less investment per dollar of value. The highly automated, capital intensive bladders will have a much higher figure.

The 18.8 acres per dollar of net assets is a result of our optimum growth rate calculations in Chapter 1. In discussing optimum for the United States, we used the highest figure because when talking about expansion, we are talking about spending money, we are not talking about net assets. This raises the investment requirement required.

Based on the Bladder Study figures, the 18.8 acres bladders are as follows:

Costs	\$ in
Bladderlike	\$1.8
Equipment	\$1.3
Other current assets	\$1.1
Fixed current assets	\$1.78
Machinery, equipment and and other net net	\$1.8
Less gross fixed depreciation	\$1.1
Net Fixed Assets	\$1.68
Other assets	\$1.1
Total assets per dollar of value	\$1.78

the analysis of combined percentage income, checks for varying size companies, different products, and different processes in the

Ratio studies reveal the difference in proportion of the types of assets required by various types of firms.

Although the size of a firm does not appear to make a significant difference in the proportions of its assets, the type of product does. For instance, financial products, which use less the various asset properties involved, have not had material only 44 percent of total assets, versus industry averages of about 66 percent. Newspapers, on the other hand, go to the high end of the range with over 67 percent.

There is also an old adage when viewed by persons with assets, and a distinct operation, requires only about 11 percent to run, but assets as might be expected, such that give about 66 percent for fixed assets.

These figures underline the importance of the nature of the business in determining the type of assets required.

CHOICES OF FUNDS

The capital structure, which means sources of funds, must be consistent with the types of assets required. While short-term liabilities can be used to finance liquid assets, more permanent assets should be financed by longer-term sources.

All sources are independent and what is used and what is owned. The ownership of assets is the method. The value of the assets, based on their liquid value, is the equity.

For a full understanding of funds, you should be familiar with the following definitions:

Equity, or Credit

This means, simply, what you own.

Debt, or Credit

This is the amount liquid assets and secured expenses—principally payroll—resulting from the operations of goods and services in exchange of paying for them. When payment due is the capital expenses, there is no interest rate, as in the manufacturing sector. There can be some in the form of lost discounts or, if credit is obtained, in higher prices on the withdrawal of credit obligations.

Many suppliers offer cash discounts for early payment. For instance, terms may be "2/10, 10 days or 10 days," in which case the cost of taking the full term is the loss of the discount. If a percent discount the 10 days represents increased interest rate of the payment.

high price for loans. If the supplier guaranteed you to deliver the x , the cost of the loan (debt) would be spread over the days; this would give you a cost of funds of 14.5 percent, which is a marginal firm (could not be constructed). Other than the probability of success, the deciding factor in determining whether or not to take the loan is the cost of other sources of money.

In a few business cases only credit risk and credit is shared; variation in possible charges may be added. But at 4 percent per month and subsequent cost will produce annual rates of interest percent. In extreme cases, a supplier might agree where he entered would be a good risk.

Negotiated Short-Term Credit

Credit is considered short-term when it is due within one year. This is credit that has been independently negotiated, usually with a financial institution, instead of arising from the normal course of business.

It leads line of credit, in which the borrower may draw down funds upon an agreed upon amount, is the most flexible arrangement. Or, at his convenience, he may repay when there are overfunds. This is an ideal way to handle the periods of peak demand for cash.

Many small companies are forced to use short-term rates for 90-day or more. These may be very expensive but they are less flexible than line credit, as he normally has single interest charge from the actual balance, paid automatically. These usually discount the interest—that is, pay it in advance—so his cost is slightly higher effective rate, because the company gets use only of the initial amount less the interest.

Long-Term Debt

Living in many firms, this is debt is like maturity of greater than one year. The borrowing might interest, structured around obligations based on debt ratio. This, however, is available only on the company's own financial statement and might interest is based on debt. It may require mortgage or an assignment of equipment or, frequently, used.

The smaller companies might be able to borrow higher conventional loans, which not only carry lower, sometimes but much higher interest rate than these are more favorable arrangements than the one to provide the needed funds a greater price—the greater the manager pays for operating with a fixed capital base.

Leases

Long-term, noncancelable leases are a form of long-term debt, and create the same cash obligations on the balance as if the lessee owned. Sometimes the cost is recognized because interest rates are identifiable (the lease payment are higher, or because the term of the lease is shorter than that of a loan).

For noncancelable leases to be long-term leases, however, lease payments are payments that could not get forward funds. Thus, the credit implications are the same. It is difficult to understand why a company can have something on which it cannot borrow.

Other companies have resorted to leasing because it is "off the balance sheet." However, meaning it doesn't show on the balance sheet. This is equally funny thinking, because as a company is financed in the amount of debt it can gradually carry, regardless of how the capital planning purposes, are measured that lease, be capitalized and treated as if they were loans.

Equity

Measuring total assets less total liabilities, equity is the owner's investment. Clearly, it is a computed figure, built up by profits and new capital and depleted by dividends, operating losses or capital returns.

The Impact of Leases on the Balance Sheet

The fact that leasing encourages an accumulation of a company's debt structure may be illustrated by some an "illustration." The example is rather large and represents a short-term company decision, however, that the above offering is not just representative in the same sense it is a fact.

The picture, for example, is a rapid increase industry, suggesting that it is appropriate to use large amounts of debt. But, there are also very rational, with profit margins that are relatively low relative to investments in volume, but that would tend to indicate the need for more equity.

In this situation, the 1970 balance sheet of United Nations shows long-term debt of \$1.2 million, and more than \$100 million in equity capital. This means that U.N.'s debt-to-equity ratio is a high, but manageable 1:1. Estimated on the balance sheet are long-term debt, making the company's debt-to-equity ratio is 1:1. The capital of value

of which was \$2.5 billion, and the issue is underwritten, and the total is \$3.5 billion, with the debt-to-equity ratio becoming 1.4 to 1.

This situation is not limited to United States banks. But in the American case you get loaded with loans, and other industries such as railroads, hotels, motels, and retail chains are considered a safe investment as well. In 1974 total loans in the United States were valued at \$300 billion. Certainly, this is less than \$500 billion as long-term debt has been consistently in the neighborhood of \$175 billion—a significant difference.

In 1975, the Securities and Exchange Commission (SEC) required companies to begin disclosing debt obligations by putting them in the footnotes of their annual statements. The Financial Accounting Standards Board is drafting an opinion that would require that all loans be capitalized and reported on the balance sheet, itself.

ALLOCATION OF RISK, RETURN, AND CONTROL

One often hears the argument for being provided by the size and nature of the business, the owner must decide how the firm is going to finance them—in what proportions they are going to utilize the various sources of funds. This is essentially a question of how to allocate risk, income and control of the business.

There are three main sources of money, namely, equity, loans, and bonds. If the risk of loss, giving some of the principal profit, goes to equity, complete control of the affairs of the firm is the legal consequence for the owner.

If individuals borrow, the lender assumes a portion of the risk, the degree relating to the proportion of capital supplied and the amount the loan. It might have some effect on how a manager is choosing, or on investment loans, which, theoretically, are a higher risk.

For the sake of the owner and the risk involved the lender would be allocated a share of the firm's income. If risk is low, the income allocated is called interest and is sent to the lender, whether the business actually earns it or not. This leads to measure the business's risk.

The lender also must give a certain amount of control over the affairs of the business, with his rights limiting the owner in which it is run. On these rights may be assigned some of the firm's or higher-level interest or principal payments.

The goal of financing is to arrange a mixture of general financial strategy. It takes complete control over money for funds and gives up more control and risk to the firm. This is often a repeated theme in, or from the

All three companies have earned the same return on total assets. Company A, which has no debt, makes this return return through its equity. Company B, which has borrowed its loanable amounts, pays the lender the rate of 5 percent for the debt and is able to leverage up its return on assets to 10 percent. Because company C, which is undercapitalized, is forced to pay a high 15 percent on its debt—more than it is earning on assets—it loses money.

Example

When a company needs more funds it normally must agree to give up some of its products—either in the form of interest costs, or as participation in equity. This means a dilution—most assume that the residual part of the company retained by the existing owners will be worth more than the value of their holdings had there been no introduction of new money. Otherwise, they have made a poor deal.

If less money is borrowed, the owner must sacrifice less of them for it costing, or he has suffered a loss. In the same token, if he takes in additional equity capital, he must sacrifice more in than he gains upon or he has gained nothing. Any financing, therefore, runs the risk of diluting the present or net position if it is not based on the product flow of adequate profits.

Consequently, while in one sense there is no risk in adding equity capital, in the fact is potential cost.

The Burden of Debt

We already have discussed interest as a cost of debt that must be critical to an entrepreneur long the interest burden the potential loss of several subsequent years, as the case that they are disadvantages of debt.

The maximum burden of debt, it must be argued—in any, if there were, that cost generated by the operation of the business by the liquidation of assets, as through following:

Management often must be releasing debt as it matures and interest in the liquidity of the external money market, which may or may not be favorable. If the company has enough assets, it may be forced to negotiate a sale of the firm if needs of the assets and others it is being sold, which. Management should be well served in creating on the ability to "roll over" debt to some future time.

The liquidation of assets to a quite acceptable way of getting off debt provide a clear debt as a general contemplation that must be made consistent with the circumstances. This is the principle used in debt.

some seasonal working capital loans, whereas money is borrowed to finance inventory build-ups. As the inventory is sold and the money is paid, funds to repay the loan are generated.

The fundamental source of debt requirement is usually cash generated by operations—that is, earnings after taxes, plus or minus cash charges or disbursements, less funds required to finance increased working-capital requirements. Evidently, debt payment facilities are used to within the limits of the cash generated. The limiting factor is not only the amount of the debt, but its maturity. A company might be paid for its oil with a \$100,000 loan paid with equal installments over 30 years (that is, with a \$30,000 loan paid off in ten years).

Usually, debt requirement is a commitment of future cash flows that will reduce future environmental earnings by that amount. It means those funds cannot be available for other purposes, such as expansion.

MANUFACTURING AND SERVICE INDUSTRIES

The capital structure decision is essentially one of matching the nature of a company's assets with appropriate liabilities.

Every industry develops patterns that reflect its operating conditions. For example, the utility industry requires a tremendous fixed investment. Because the demand patterns are very stable and quite predictable, it has tended to finance its capital-intensive business with long-term debt, planning to pay off the debt with the earnings on assets. It is not uncommon to see utility balance sheets with 60 or 70 percent debt for every \$1 of equity.

The insurance industry, with a slightly different situation, presents liabilities—in the form of potential claims—but fixed-dollar amounts. Consequently, it assets most of its funds in fixed income securities. It cannot afford to risk the loss of its assets, because if it did, it could not meet its obligations.

Banks, which are really dealers in money, have a similar problem. They borrow from their depositors and a short-term loan, and pay for its loan out of short-term loans. If they had too much long-term money, they would become quite illiquid, and not be able to meet a demand for funds from their depositors. Because banks are dealing with money in very liquid forms, they can operate with equity positions of about 10 percent of their total assets.

The balance is here! The basic principle was not one of the reasons the Ford Motor Investment Trust (FMIT) closed the books for the first six months 1970's. They had their funds up to traditional banking—that

even not liquid/convertible relatively fixed returns, although short-term liquidities may be much at their mercy. When the bank started its expansion, a shortage of liquid and interest rates suddenly shot up, the 100-110 liquidity and running pattern fell into immediate trouble. Subsequently, around 20% of the interest rates of their underlying loans were to go into trouble, jeopardizing their position. While the 100-110's were trapped in a manner which prevented their equity value to grow faster, they didn't have the capital base to withstand adversity.

Finally, using these generally unvalued assets which created fluctuations that affect on financial institutions. Therefore, they acquire through capital base.

Figure 10.1 shows the relation of assets for funds to the source of the funds in manufacturing operations. The short steps represent company. The foundation is the expanding asset for fixed capital financing, normally supplied by long-term debt combined with equity. For instance, a plant might carry a mortgage of 75 percent of its value, meaning that 25 percent is supplied from equity sources.



Fig. 10.1. Assets for funds in manufacturing operations.

Finally, equipment can be bought with a heavy mix of long-term debt, supported by an equity base.

Permanent working capital requirements should be supplied by equity. Some long-term debt may be used, but when this happens, you are either taking debt away from the fixed assets used or increasing the mix of two kinds of debt.

The top of the permanent working capital requirements are the financing or current working capital needs. Some of these are automatically met by the use of spontaneous credit generated by normal operations—trade credit and accrued expenses. The balance should be handled by short-term bank borrowings.

Painting Industry Statistics

The 1973 F&B Basic Study balance sheets show equity positions of 50 to 55 percent of assets. This means debt runs 45 to 50 percent. If there is an equity position of less than 50 percent of assets, the capital structure is weaker than the average in the industry. If the equity position is in excess of 50 percent of net assets, it is more conservatively financed than industry averages.

Net working capital improved considerably around 1960 (average 25-30 percent of total assets) in the painting industry. Inducting these figures from the equity position of 50-55 percent leaves equity of 25-26 percent to finance fixed assets—indicating that over half of the fixed assets in most painting companies are financed with equity and less than half with debt.

All across, this mix did not vary 75 percent of a new asset being financed with debt. The percentage gradually declines as the debt is paid off. The lower overall average of under 50 percent debt will be the result of the weighted average of both new and old assets.

MANAGING DEBT

Financial managers evaluate a capital structure through the use of ratios. No single ratio is a magic bullet. Debt balance as a group, they are indicative of relative financial strength.

Liquidity Ratios

Working ratios are used to measure the liquidity of a business. The more liquid the business, the more able it is to handle its debt without undue strain, even under adverse circumstances.

In some of them, a company is not properly utilizing its assets. For example, if its ratios indicate it is more liquid than necessary, this is the case of "planning failure," although the demand might be limited and a division, if necessary, starting a new, higher-value investment, the more liquid it may be a more prudent decision.

Ratio	How Calculated	Industry Averages
Current Ratio	Current Assets	1.5-2.0 to 1
	Current Liabilities	
Quick Test Ratio	Quick Assets (Excludes Inventory)	1.0-1.5 to 1
	Current Liabilities	
Cash Ratio	Cash	Depends
	Quick Assets (Excludes Inventory)	
Net Working Capital Turn	Net Sales	Depends
	Current Assets - Current Liabilities	
Inventory to Net Working Capital	Inventory	Depends
	Current Assets - Current Liabilities	
Debt-to-Equity	Total Debt	Depends
	Net Worth	
Long-term Debt to Capital	Long-term Debt	Depends
	Net Worth	
Coverage of Fixed Charges	Income before Interest and Taxes	1 to 2 times
	Interest and Debt Repayment	
Current Liabilities to Equity	Current Liabilities	Depends
	Net Worth	
Long-Term Debt to Net Fixed Assets	Long-term Debt	Depends
	Net Fixed Assets	

Fig. 4-1. Ratios to Watch

For the most part, printing companies are relatively conservative in their capital expenditures. Manufacturing industries, however, are somewhat reckless and should not become discouraged too heavily. During periods of high interest rates, when they necessarily have returns on their investments, it becomes clear printing companies cannot afford to carry high debt.

THE WEIGHTED COST OF CAPITAL

This cost is used to determine the target return desired on investments. Again, using the 1979 Data Booklet, the weighted cost is the average that looks like this, at two hypothetical levels of capital costs:

Source	Percent of Assets	Assumed Cost of Capital	
Bank Loans (Credit)	25.00%	8%	8%
Weighted Short-term (Credit)	17.00%	12.00%	20.40%
Long-term Debt	16.00%	12.00%	19.20%
Equity	42.00%	15.00%	63.00%
Total Average	100.00%	15.12%	10.60%

In the degree, of course, that the target returns or assumed cost are increased, the average cost of funds will go up. In the mid-70s, regulated short-term credit has been as high as 12 percent, with long-term debt at 14-15 percent.

The 12-15 percent shown on capital costs seems considerably high, and from the point of view of an investment company, to which the printing investment is compared with all other forms of investment and in terms of the real return most investors feel that this level of return is justified in manufacturing companies, large utilities, and technological developments may make it virtually meaningless for the long-term survival of a company. Nevertheless, it is certainly subject to each investor's judgment.

This kind of weighted cost of capital analysis suggests our earlier opinion that target returns on the printing business must be in the range of 10 percent of net assets before interest and taxes.

SUMMARY

Developing adequate capital structure to support the objectives of a company is a critical part of its management. Thus, capital structure may be developed in a capital structure which is an appropriate mixture of various types of sources.

The nature of the source should be consistent with the nature of the company's operations and its assets. If it is a volatile business subject to wide cyclical downturns, it should be financed with volatile assets. If it has liquid assets, it can finance them with short-term debt. If the assets are illiquid they need to be financed with more permanent capital.

Based on the research, cyclical nature and business nature of assets, it is probably appropriate to conclude that the printing industry tends to be relatively conservative, capitalised. In the absence of evidence to suggest otherwise, there are reasons for this. The industry has more than enough the burden of debt-interest and principal repayment. They are meeting, in effect, a progressively higher hurdle over which to jump. If there was more debt in the capital structure, the cost for the debt, they must not be able to interest the industry adequately.

ORGANIZING THE MANAGEMENT TEAM

The Talent it Takes

At this point, the growing manager has developed all of the elements of his Corporate Plan except one—manpower, certainly not the least important, that deals with the development of the human resources required to carry out his plan.

The manager faced his struggle with the many threats that have been written on the subject of organizing a business team, namely, to note that they all agree that the most vital element of any company is its human resources.

Some years ago, in Richmond, Virginia, an extremely profitable company had a sales volume of about 34 million annually and together was turning a half million dollars after taxes. Moreover, he had more than 10 million in assets, made investment in short-term marketable securities—and he owed no money.

He knew all too many of representatives to expand and diversify his business, but he did not think his management team was ready for greater responsibilities. They had all they could grasp to control the company; that looking to build the management group was a slow process and that he could save the company no faster than he could train management.

If only he may have been more conservative on the basis of unbridledly natural management groupware with less prior management development efforts, the profit would indicate that he had better expanded operations, and that his reaction to the constraints of the group's abilities should be taken seriously.

in the William Reed Group, whose over the last ten years, we have grown at the general rate of about 1 per cent, our experience also has been that the biggest constraint to management ability, to company growth, and the management task becomes more complex, more and better managers are needed. It becomes more and harder to grow if the person, whose staffs must not be effective in controlling the activities of 10 persons, particularly if the business is not too quickly. There must be some important limiting factors, and administration often develops when not growing, so that that appropriate adjustment can be made.

THE TASK

The Chief Executive Officer understanding the need of building a management team must realize a handicapped position for him: a certain number of jobs to fill, each requiring certain abilities and knowledge, and he must find the best possible individuals.

The talent he looks for may be divided into three groups: top management, middle management and front line representatives, although the latter two groups will vary with the size of company, all companies, regardless of size, need the administration represented by each of the three.

Top Management

This group includes the CEO and the few top executives who participate with him in setting policy and making the strategic decisions for most companies, the group includes financial, marketing, and manufacturing experts. In smaller companies the CEO may be one and all of these functions. In the smaller situation this top group may be divided simply, as an "inside man" and an "outside man."

The personalities and qualifications of the people in this group are critical to the success of the whole organization since it is they who set the tone. If they are conscious of themselves and are of mediocre or very low ability, they are not going to be able to attract and hold qualified personnel. Therefore, attract, develop, if possible, top management men, be it through, be an outstanding young middle manager and will need to recruit his activities rather than encourage him to develop.

The competent top manager is marked first by sound technical knowledge and intelligent interpretation of his own knowledge, is one of the highest order, he cannot deal with his subordinates and their problems with confidence.

Equally important, the top manager must have a broad management perspective—a general management viewpoint—and be familiar as well with financial management. He should see problems within the context of the overall organization, not just within his department. In the context of the long term, he must see under for the short-run problems. In a crisis, then, he must have a sense of the total's job.

As a self-starring leader helping to build the organization, the top manager cannot have problems with CEOs' savings by be a person who expects a great deal of knowledge himself to be effective.

Finally, the top management group must function as an efficient team, with mutual respect and unity of purpose, operating within a framework of mutual exchange of ideas. Disparate opinions must be considered and in improved debate and compromise must be achieved without tension. When a decision is reached, all must pull together to make it work.

Middle Management

A very important group this is composed individuals who manage company on a day-to-day basis. Technical competence in their specialties is essential and in addition, must require some general management competence. Middle managers come from two groups, mature specialists who do not have the personality, desire or broad management background to move into top management ranks, and young persons who are on the way up.

Top management should be very sensitive to the so-called "Peter Principle" which states that a person tends to rise to his level of incompetence, getting promoted based upon success until he reaches a job in which he is not successful. The trick is to anticipate by one promotion a person's competence level.

Many of the best subordinates make the worst vice managers. A good foreman might not be a good department manager and a good chief engineer will not automatically be a good top executive being one.

Plant-Line Supervisors

This is a tremendously important part of the management team, and often overlooked part, the most intelligent, the most able. The standard the front-line supervisors is the staff "M.A.S.T.'s" of the organization, those who know how to make the machine work day to day. This is the highest level in a company in which technical competence is more important than general management ability.

The first step in building a management system involves defining the policies that must be followed, about such as developing organizational charts, supported by job descriptions, and the requisite qualifications.

The advantages of a formal organizational structure system is that the smallest company, too, has the alternative should be, more capable to get good business—its tendency to be completely to be involved in everything, but nobody to be responsible for anything. In a smaller company, there is, of course, the necessity for management personnel to wear more than one hat. But, if the jobs are spelled out and the organization chart, it is allowed when is supported by the doing a better job through a person's duties that appear to be a number of places.

Organizational Philosophy

Some managers believe in an extremely authoritarian organization, one in which decisions are being made at the top, by the hands of a few individuals as possible. While this approach minimizes control problems, it creates other, more fundamental problems. In an organization grows, top managers become more removed from the details of operations, their ability to make timely and informed decisions at the lower levels becomes progressively poorer, the quality of decisions weakens, and sometimes, even the top man becomes a bottleneck.

In the opposite concept—the decentralization—the least decisions are the one made at the lowest possible level, consistent of course, with coordination and competence. It is this philosophy that a management control system serves as well, for through planning, control, and performance appraisals and well thought-out budgets and policies are more valuable for guiding individual managers.

The managers are free to use their judgment within these guidelines, which, ideally, they helped to establish. The management control system, then, provides managers an anchor, and tries to keep actual performance and objectives away where significant deviations from budgets and other guidelines are existing. It is a simple, logical, step in developing an effective management control system within the manager's job and his objectives are defined.

Designing the System

The well-fitting management control system must be tailored to the specific organization—rather than the organization tailored to the

systems. Some companies have attempted to fit their operations into a fixed organizational concept, but this is wrong. The thing to fit the persons to is the work. Effective handling of organizational structures must reflect an understanding of sound organizational concepts and the unique circumstances of the company and its personnel. It is easier to change job-designations/ranks than change people in substance. The end result must be a harmonious match of a person's ability with the job requirements.

Lines organizational concepts have particularly widespread tendencying as organizational chart. Each should be understandingly the person manager understanding the role.

In the line concept, line men, staff, the line-organization is normally charged with the prime responsibility of managing the affairs of the business, while the staff-organization has there is support of the line efforts.

Usually the staff contains specialists in a functional area, such as personnel administration, industrial engineering, or law. They give the expert advice to the line managers, as well as perform the detailed studies required in special projects pertaining to their area. While they are often instrumental in the formulating and setting policy, they do not normally have any authority of their own. Their authority is derived from the line position to which they report; they act only in its name.

Although another company do not generally employ a full-time staff, there do have outside staff assistance—in the form of consulting firms and law firms as well as consultants. These usually consult only about such the staff concept as building their organization.

The second concept, staff-officer command, which, single-civilized people system individual to report to each one line. This does not mean that officer cannot influence his officers, only that he is accountable to only one person. (There is, he is caught in the confusing question of not knowing who his boss is.)

The third concept, span of control recognizes that every individual in given a share amount of time and ability, with share time he has handling the amount of work the individual can perform. If a job requires more time is taken than the individual has, it is beyond his span of control.

A weakness of the span of control problem is a mutually exclusive job assignment. If, for instance, a person is assigned responsibility for clearing trails on a busy street corner during rush hour and also for clearing the bus track, he needs both jobs are well-said there is a

the doing, each hour. When that happens, our job must go unattended, either, in some subtle way, a person ignores important aspects of a job because not having time to do everything, he places higher priorities on lower tasks. The implication is that his span of control is too broad.

In general, your situation place an important person doing the job of the first-line supervisor, which is second nature in the highest job in the company where technical competence is more important than management competence. For this reason, most first-line supervisors will be limited in management training. If there were not, they could move into higher management positions. People work best of the best when their span of control does not exceed what they can deal with in the best person with a minimum of delegating.

The Organization Chart

This is simply a reformat of the organization structure. The first important—the job title—should describe in as many words as the function performed by the job holder. To simplify title is a guiding principle include:

Chief Executive Officer
Vice President-Manufacturing
Plant Superintendent
Sales Manager
Salesman
Personnel Supervisor
Foreman
Inventory Control Personnel
Apprentice Electrician

The job title are linked together in direct lines of authority, also known as the chain of command. The vision person is placed at the top, and lines down down to his subordinates.

The lines of authority also represent channels of communication, which are two-way channels. The action personnel are shown with a responsibility to direct the efforts of the manufacturing personnel and report communication to know what is happening.

Workers have indirect communications channels that direct outside with the lines of authority. For instance, the staff function of personnel administration may have a broken line shown to the Plant Superintendent.

A well-constructed organization chart clarifies the organizational structure for all members of management, helps them to visualize their relationships with managers, and presents all levels of management in uniformed form the organization should function. It also allows the specific assignment of responsibilities, with appropriate authority, as well as the setting of objectives, and the evaluation of individual performance.

The following organization chart, Figure 14.1, represents the basic structure at The Williams-Sonoma Store. It is not the only way in which a printing company can be organized, but all of the functions shown must be performed somewhere in the organization. Although similar companies will not have as many levels of management, customer and merchandise have no parallel of the individual functions.

Managing Conflict

In dividing the responsibilities, where must the lines be drawn? In any organization, there are conflicting or competing considerations—such as the customer, an inherent conflict existing between sales and production considerations, or between scheduling and maintenance, or between quality and cost considerations.

In the concept of controlled conflict, organizational lines were drawn so close to their conflicting considerations that neither one person or challenged authority. The business, stated the customer, is that this individual will not be loyal to his boss, to the detriment of the overall profitability of the firm. By splitting such responsibilities, conflicts are forced to the surface, issues are faced, and problems acknowledged. This results in a desired "conflict" of perspectives, serving to maintain that high levels, and producing balanced performance that results in long-term profitability. In short, all solutions must reasonably satisfy all viewpoints.

Departmentalization

Dividing a company into specialized groups is called departmentalization. The purpose is to simplify management tasks, establish responsibilities and create the framework for control. A printing company can be departmentalized at four levels.

The *Plant Center*, as an owner will be, the cost center, is the lowest.

The People Center:

The smallest management unit of the organization. It may be a team with peers, a mobile unit, or a line-type machine. It is usually



headed by a team chief, a working line man or a line man, and is composed of a sub-department of workers and/or machines, based on the following criteria:

- Similarity of equipment and processes
- Uniformity of mode of operating
- Similarity of time and speeds of equipment
- Low complexity
- Compatible and similar operations
- Single responsibility
- Common location

The Division

A group of profit centers with similar operations, under a single responsibility and headed by a manager who has decided powers, duties, or prerogatives, usually headed by a technical expert or engineer, the division is the highest level in the organization at which technical competence is more important than managerial ability.

The Department

A group of workers with similar operations, under a single responsibility, such as job posts, posts and finding, it supervises and executes the department, using general management abilities.

The Division

A group of departments such as manufacturing, marketing and administration.

Job Descriptions

An organization that should always be supported by formal job descriptions. Having more important programs, they help top management to better define the responsibilities implied by the job title and the organization itself, and they are very useful in determining job qualifications. If about job descriptions, we tend to view a job as the content of the personality of the person filling it. A good job description is without doubt regard to personality, also thing is the most important factor provide the characteristics of the job and the skills required to perform it.

A job description is always very effective means of communicating to the job holder his responsibilities. If a person does not fully understand his job, he will not perform it properly. More importantly, the job must be mutually understood by the employer and the employee.

Figure 4-1 is a sample job description.

GENERAL INFORMATION

Notes -- These notes reflect only preliminary, non-definitive comments, and other relevant thoughts. Nothing formal and final required.

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in whether attainment of a job description, the job plan states exactly what and how the job holder is going to fulfill the responsibilities stated in the job description. That job is demanding that supervisor's job, for instance, would include supervising his quality control group when things, specifically, have done to meet that requirement? (How to request work and many times? If not, what else he do? What is required to effectively control quality?)

The initial effort at writing a job plan (Fig. 9-5) allowed us many things that was included was possible down problems involved through the initiation of activities, the development of the efficient use of time and the delegating of tasks that are of lower priority to subordinates.

Supervisor's Job Isn't Finished

Even the project manager has properly prepared his organization chart and job descriptions, he should start the basis for establishing his management personnel requirements: the numbers and type of managers.

When planning by the future, he must make the distinction between existing and proposed organizations. When building an organization takes time, but time, an important, adding too many people too soon will be more harmful. But when in the other case, time may cause effective suboptimal to be delayed. Inasmuch, the best organization building is done gradually.

Dealing Existing People

The place to begin is with the evaluation of existing people, his promotion from within, if possible, has many advantages. First, there is less risk, because you know the people better. Candidates sometimes look more attractive because you don't know them well enough to see their faults. Promotions from within is also major plus factor in building morale and an esprit de corps. The recognition of performance will motivate others in the organization to perform even better.

Existing personnel can be divided into three categories:

Those who have stayed

These are the managers who have maintained their initial potential. They do an excellent job at their current levels, although they may not be promotable. At the same time, maintenance of skills through con-

Executive Order: Executive Order 14176, 2025 RELEASE UNDER E.O. 14176

Department / Office	Project / Task	Timeline / Duration	Responsible
Office of Management and Enterprise Services	Develop and implement a new system for managing the fleet of vehicles	6-12 months	John Doe
	Review and update the fleet management policy	3-6 months	Jane Smith
	Monitor and report on fleet maintenance costs	6-12 months	John Doe
	Implement a new system for tracking fleet usage	6-12 months	John Doe
	Develop a new system for managing fleet safety	6-12 months	John Doe
Office of Information Technology	Develop and implement a new system for managing IT resources	6-12 months	John Doe
	Review and update the IT security policy	3-6 months	Jane Smith
	Monitor and report on IT security incidents	6-12 months	John Doe
	Implement a new system for tracking IT usage	6-12 months	John Doe
	Develop a new system for managing IT support	6-12 months	John Doe
Office of Human Resources	Develop and implement a new system for managing HR resources	6-12 months	John Doe
	Review and update the HR policy	3-6 months	Jane Smith
	Monitor and report on HR metrics	6-12 months	John Doe
	Implement a new system for tracking HR usage	6-12 months	John Doe
	Develop a new system for managing HR support	6-12 months	John Doe
Office of Finance	Develop and implement a new system for managing financial resources	6-12 months	John Doe
	Review and update the financial policy	3-6 months	Jane Smith
	Monitor and report on financial metrics	6-12 months	John Doe
	Implement a new system for tracking financial usage	6-12 months	John Doe
	Develop a new system for managing financial support	6-12 months	John Doe
Office of Legal Affairs	Develop and implement a new system for managing legal resources	6-12 months	John Doe
	Review and update the legal policy	3-6 months	Jane Smith
	Monitor and report on legal metrics	6-12 months	John Doe
	Implement a new system for tracking legal usage	6-12 months	John Doe
	Develop a new system for managing legal support	6-12 months	John Doe
Office of Communications	Develop and implement a new system for managing communication resources	6-12 months	John Doe
	Review and update the communication policy	3-6 months	Jane Smith
	Monitor and report on communication metrics	6-12 months	John Doe
	Implement a new system for tracking communication usage	6-12 months	John Doe
	Develop a new system for managing communication support	6-12 months	John Doe

storing education is necessary. Those exposed to general management training will broaden their perspectives and help to keep up their enthusiasm.

Those with potential

There are the people doing an excellent job now, but who appear to have substantially more potential. They may include a young person whose showing some management aptitude, or a woman who does an excellent job and seems to be able to take on more responsibility. It is very important that these people be identified, and every effort be developed to move them on at a reasonable pace to realize their full potential. Failure to properly nurture people with ability and potential normally will result in their ultimate loss. Such people should be the prime target of the company's training and personal development program.

One experience has been that there is substantially more latent talent in an organization than usually recognized. While few of the people will make it into top management, many of them, when properly trained, can become excellent supervisors and production staff men. The success of such a program is dependent on careful selection resulting in leaders or "star boys" who can be really trained for management - and overall management training programs.

Those who are problems

There are group experience those who already have been put into management positions but are not performing. The first step is to find out why.

If they seem to have the aptitude, perhaps ability, resulting from rationalizing of the job (this is where the job description and job plan are useful) and a good program of managerial training, where good sources are available.

It may have to be that these individuals are moved over to another job. They have the ability and can make a contribution, but are not well-suited for their particular job. The challenge, therefore, is to match them to a job that does fit their capabilities.

Finally, there are those who because of aptitude or attitude problems are in over their heads. These individuals must be removed from their job, either through demotion or termination. Such problems, along with finding to move suitable personnel always should be handled in a manner that will cause the company the least resistance. While unpleasant, action must be taken.

Observing, especially in the biggest positions within a company, the standard of performance in management makes most for excellence. Therefore, every manager must understand that he must do his job well. Unless this philosophy permeates the entire management group, the company will never thrive.

Is It the Same Situation as Before?

Is today's management requirements as stated in the suggestions above, and selecting the management talent already mentioned above, the manager to learn whether he is not in a surplus or deficit position relative to his needs. Most companies will always find some for improvement in management performance.

The only way to select management talent deficits when a small internal management training program has been developed is to go outside of the company—often outside of the industry.

The concept of going outside has been somewhat foreign to the pasting industry, and it was common that industry management has tended to be isolated. A well-known individual coming to from another pasting company should bring new ideas and stimulate everybody's thinking. Going outside the industry, particularly for an executive, an industrial engineer, a purchasing manager, or similar jobs can result in considerable addition. The individuals will probably acquire the industry knowledge they need. More important, they bring new talent and new ideas to the company.

One risk in going outside, particularly in a small organization, is that the individual's ideas are not accepted. For this reason, top management should be very careful in selecting new people. Without attempting to introduce too many new people, there should be an effort to attract existing company personnel by explaining to be a new person will help the company.

While the process of building a management team from both the inside and the outside (the performance are usually a combination of the two) must be gradual, top management must make periodic check-point general managers that it will not tolerate other policies and objectives. A person who will not work with the team should be terminated. Top management may happen across the mind, but it should not happen even at the least.

Leadership

It is impossible to leave the subject of organization without a few words on the importance of leadership. Indeed, throughout this book,

one must achieve especially in the signature of the human factor in the overall control system. As stated in one of a number of "perspective" booklets published in 1969 by the Boston Consulting Group:

Since managers find whom they should go to and to let us, they find their organizations. They find human factor in leadership, goals and objectives. This is an internal factor, not external one. This is lack of managerial vision, not lack of courage or willingness, and is one of the most difficult of all managerial failures to detect because the strength of leadership hides its own weakness.

Consequently, the manager who is totally competent in everything but his relationships with his people is going to have a great deal less success than he would have otherwise.

Building a management team requires management competence and leadership. One good or ill, the organizational factor ultimately is going to reflect the leader's effectiveness. If he is honest and competent, his subordinates will be, too. If he is incompetent, could-anything-or-did-not, he can expect the same from them.

REQUIREMENTS

The primary manager must know what position he has to fill and what skills are required to fill them. The organization chart and job descriptions will help him understand his requirements.

He must then attempt to fill these positions with the best people available, beginning by recruiting, by creating, selecting, and placing. If he fills job openings such individual makes the greatest contribution. In doing so, great satisfaction is placed each individual is given the satisfaction will be in upgrade provided with potential. He must, given nothing but to himself, and even better that he makes them as short, not need more as better people. If there are need, he gradually grows into his organization for the people he needs.

Finally, the top manager must realize that his management of team is going to reflect his own performance, values, and personality. He must be sure that he is correct, and that he is not the problem. To have the management of team is organized, the Corporate Plan is complete.

Under management of a staffed company, corporate plan becomes a reflection for creating and an effective strategy to implement that

plan, all the management controls in the world will be irrelevant. They will not produce profits.

We have discussed in this section in rather the more important particularities in each a plan, beginning with market selection—on which all other decisions will be based.

Formulation of a competitive profit strategy is made to establish the structure of various alternatives and to measure the effectiveness of management's efforts.

The profit strategy involves a competitive strategy which identifies potential gains that justify the risk. The plan should include a detailed capital structure, plan cost and growth strategy, consistent with the implications of the market selection.

Essentially, all of these are paper plans which need some drive to be implemented. The engine is organization, the design is the management system that makes the machine run—so well as the personal skills and the competencies that are a must for making out a good Corporate Plan.

PART III

THE PRICING DECISION

THE PROFIT STOOL:

The Components of Profit

THE IMPORTANCE OF PRICE

In many ways the single most important day-to-day management decision is pricing, a fact that is especially and starkly recognized if the manager is selling many items at their price in any marketplace.

Most agree that must establish the price it must first set goals or criteria, at least to test the decision itself, but how it is made. This is extremely important because of the tremendously significant effect that the decision, good or bad, has on the firm's profitability and financial condition.

In approaching the pricing decision, the manager first must realize that the marketplace sets price levels for particular products. While a firm indeed prices may be in a dominant position in their particular geographic or product market, and may therefore manipulate the price levels to maximize competitive price for the most desired firm or (maximizing influence) over the entire marketplace. They can only attempt to understand the price levels and decide whether they can afford to compete on that particular product at that price.

However the meaning of most pricing jobs involves a comparison of competitive prices, viewed from within the fact that price levels have a major factor in determining who gets the job. Some managers have done a good job of developing strong critical intelligence that had knowledge their competitive market and price. It is where,

however, the knowledgeable buyer is aware of competitive price levels and will not let his supplier get too far out of line.

As an industry, we need to translate that needs-priming demand in price sensitivity. For example, advertising volume—the magnitude of broadcast—seems to govern costs. If advertising costs get too high, the advertiser modifies his order to reflect cost, finds another station, or does without.

What Does the Buyer Consider as Value?

There is not the old theory of arbitrariness; the buyer knows just what, where, and different buyers will place different weights on these factors.

The clothing industry began to realize long ago that two buyers are not treated as one and that their needs need to run a through hole. By changing up its merchandising hole, the industry can increase demand. But quality and availability are not nearly as important as the style. Entirely different in the market for clothing but the 20 to 30-year-old woman, who can buy clothing, buying better and attempting to use. They have much less interest in style, and are looking around for bargains in terms of good fitting quality.

Similarly, in pricing, many firms try to reduce their vulnerability to price competition by emphasizing other aspects of value—service, quality, reliability, service. Nevertheless, we never escape the fact that price does play an extremely important role in the decision of most pricing buyers. I have no doubt that with most products the firm which traditionally has had higher prices has had better volume than if it had lowered its prices. This statement can be tested by working its impact on the single question, "Have you ever had a sale on price?" What prices are more or less in this question? Certainly, not many.

Control of Profit

As important as pricing is, it is only one of four components of profit. The understanding of which—cost, the relationship, sales relationship—is our key to making a management-oriented study in profit.

We find our schematic of a retail (Figure 10-1), showing the components of profit, a guide needed before the manager is able to understand management in making business of before the sales relation the sales relationship.

THE PROFIT STOOL



FIG. 10.1. THE PROFIT STOOL

As we discuss these components, it is important to recognize that pricing is the "dynamic" one, which management can regulate the other components under various relationships. Let's explore how this is done.

The Profit Stool

Because so many managers seem to forget it, one statement that's repeating and repeating the main objective of a company is to create a profit. It follows then that the main purpose of management involved in pricing is to develop the profit performance — to build it, to establish it, toward the profit goal.

Profit is a net result, a summation, of all the physical resources in an operation taken, which cover a myriad of transactions and events, both made and taken, good and bad, favorable and unfavorable, all producing income and expense. In the end, profit is generated by having the income exceed expenses.

The margin of profit—the point of income over expenses—is usually estimated to be relatively small percentage by competitors. In pricing, the average margin is about 3 or 4 percent before taxes, with

is independent of the scale of output. When these quantities are small, there is not much room for error. The difference between profit and loss is small.

But Taylor has discussed the concept of a total return appropriate to a contract, making the point that the whole can be managed only by the individual management of the parts. The same thought is applicable to profit, where all of the variables that eventually determine profit, which can be described in terms of one or more of the following five major profit components:

Volume

The number of units sold and/or produced, 10, is common to both about volume in terms of dollars, but this is a dollar figure, reflecting unit price as well as unit volume.

Price

The dollar multiplier for unit volume sold. It is very important to think in terms of price levels, and the volume and profit physical and monetary goals.

Expense

The dollar paid for material, labor, overhead, and capital in the normal course of operations.

Efficiency

The ratio of output of a machine or labor relative to the capacity, time or material consumed, 10, for example, is given production 1,000 good sheets per hour, and changes are made that raise production to 1,200 sheets per hour, the labor hour is 83 percent (plus inefficiency).

Volume, price, expense and efficiency form a very complicated and dynamic relationship—in which the slightest change in a change in one component can significantly alter results, however or very desirably. Since management is seeking the best result, it is looking for the profit generated by the most favorable of the relationships and decisions—the best figure for a single component.

Using the profit sheet, we can describe the interrelationships, in its total, that result from the net profit of the business, which is represented by the four component profit legs. If one of the components goes out of balance, the total collapses, demonstrating the whole greater than the sum of the management created system is to manage the inter-

relationships; it is such a way that problems in a given component are identified and corrected before the interrelationships within it produce more damage.

Understanding the inter-relationships

Without a means of measurement, it is impossible to understand the components and their inter-relationships. The situation must not be like the tale told by economists in dealing with the national economy: "There have identified a wide range of business activities which, in the company, create the level of our total economy, and they have devised key indicators to measure this activity, in the following weekly economic summary page. (Fig. 14-2) Even a 1973 edition of *Business Week*, we see the type of information: a group of statements which is helpful in understanding the various levels and trends in the national economy. In order to manage profitably, the printing manager must develop similar indicators for understanding the state of the economy within his company.

"They—just look at the bottom line of the income statement, and you will know how things stand," goes a common line of reasoning. Indeed, this might be adequate if current profits are at an above satisfactory level and proven to amount that there is responsibility if a downturned. If, however, profits are not where they should—be, the manager is faced with understanding the problems. Even if profits are satisfactory, he must be on the lookout for early signs of fast-developing problems, so that he not correct them before profits are seriously affected.

Through the measurement concept, each company is introduced to its own economy. These—can be managed through the understanding, and control of the two components of profit and their inter-relationships. The design of the management control system that results in this book is centered around the task of accumulating data in a manner which sheds the most light on these components.

Types of Measurements

Indirect activities require different measurements. Some, for example, can best measured in absolute terms, such as volume, which can be measured in terms of dollars, pages printed, or number of copies. Measurement expressed as ratios or percentages can also be revealing. We often think in terms of labor cost as a percent of sales, and as discussed in the chapter on capitalization, we now have a ratio



Two other issues, it says, are the environmental impact of the proposed construction and the potential for increased traffic on the highway. The highway department says that the proposed construction will be completed by the end of the year and that the highway will be closed for a period of time. The highway department also says that it will be working to minimize the impact of the construction on the environment and on the community.

[illegible][illegible][illegible]

of current assets in present liabilities may be used as a measure of business short strength and liquidity.

Advertising may be treated—the composition of the advertising or ratio from time to time, a determining factor will indicate the existence of a problem, since its very effect there must be a cause. If you find the cause, you will be on the way to solving the problem. When the trend has improved, a favorable response to your management plan is indicated.

When a number of factors combine, a needed tool may be the reference weighted average of factors concerning the effect of individual factors, and reducing the complications of what might otherwise be a large body of hard-to-understand information.

A manager of a printing firm was once asked those he believed to help him better comprehend what is happening in his business. Of course, it is the task of the management control system to produce the information necessary in drawing these measurements.

“*How to get the right price for your product*”

The management of profitability requires a working understanding of the key relationships of the profit components.

“*What is price?*”

There exists for any product a relationship between its price and volume. To do it, he knows the price he will lose volume, or he knows volume that he would otherwise get. If he knows price, he will attract volume.

Finding the “right” price/volume relationship is critical to the financial health—the profitability—of any printing firm. There is no one, uniquely absolutely correct, answer. Instead, it is a question of achieving an chosen goal, of obtaining a relative price—the most profitable price/volume relationship—and implementing a rational pricing strategy to obtain the goal.

Every printer starts with his existing, average base, which is the result of his past and current pricing efforts and their effect on his volume. But is this existing relationship the best one, and can it be improved? The basic premise of our approach to pricing is that certain economic principles must be understood. To get these principles to work, a number of tools are available to the printer—on pricing, for example a rational decision that enhances the possibility of achieving the optimum price/volume relationship.

Relationships: Cases

The relationship between price and volume can be plotted on a curve, if the relationship can be quantified.

The x-axis of a graph is the price per unit; the y-axis is the number of units sold.

The theory is that the number of units sold will vary in some inverse relationship to the price per unit. The relationship normally will not be constant at all in the meaning that as the price changes the price ratio, the market will not be in price equilibrium as it might be at the outset of the sale.

The principle involved is the elasticity of the market—the degree to which volume for a product will respond to price changes.

In an inelastic market, an increase in price does not result in relatively significant lost sales. Therefore, the cost of lost business to not a major deterrent to raising prices. Conversely, a price reduction does not result in large volume gains, so there is little incentive to reduce prices.

In elastic markets, volume is much more price sensitive, and the potential benefits or costs of changing price levels are significant. Figure 10-5 illustrates these potentialities.

Priming is essentially an elastic market, for the periodical book is a consumer product. For example, a 10 percent change in price can result in as much as a 15 percent change in volume. I illustrate pricing ahead of such examples.

Because price has such a strong influence on volume in the priming industry, it can be effectively used to manage volume levels—keeping that volume which provides the company with the most profits. This may not necessarily be the highest price or the largest volume—it is the optimum combination of the two.

Volume Expansion

Now it is easy to think we are dealing with a "chicken or egg" situation. Which comes first, volume or expense? Actually, it is neither. For either expense comes first, then come volume, and then more expense.

Before volume can be sold, there first must be a capability. That is, plants designed to establish this capability—commercial equipment—must provide volume. After the volume has been sold, variable expenses, such as material, are incurred.

Committed expenses mean the plant's capacity—the amount of



FIG. 10.1. VOLUME PER UNIT

volume the plant is capable of producing, and the thought behind these two of the most important strategic relationships in a growing plant—volume/capacity, which is often spoken of as termed the pattern of capacity utilization.

If a plant has excessive capacity—too much committed capital and/or management—relative to the market, the condition gives rise to related problems. The first is the cost of the excess/capacity, which must be absorbed out of the profits on the work that is sold. The other is a pressure to reduce future long-term capacity, which means some of the overhead, but also reduces profit margins to low desired levels.

As part of the Chrysler Plan, this volume/capacity relationship is established whereby profit measurement, if made correctly, can eliminate, or severely, any capacity profit problems that take place on work cost.

In traditional costing, volume also relates to variable expenses, such as material. These variable expenses are computed by the volume and are profitable if there is no volume. We will have a great deal more to say about variable expenses in the next chapter.

Efficiency and efficiency are related to two issues, the most important of which is in terms of product life.

From the smallest printing plant has a number of separate processes, each of which has a number of operations. For instance, there are prepress activities such as composition and letter prep, various presses, and a range of binding operations. For two jobs within all of these processes in the identical sequence, but all must be utilized effectively to achieve the optimum profit potential of the company. Accomplishing that requires management of a product mix—utilizing a combination of jobs that balance out the work loads and equipment efficiency use of the equipment and personnel.

A plant also faces machine problems, having to be sure it enough volume to make the work flow continuously and smoothly, at the proper pace. When insufficient volume exists, the work flow is slowed to slow down because of the gaps, and personnel will not operate as efficiently as they would when pushed by the proper flow. If less than is the work volume, the work flow is disrupted to handle such jobs, resulting in inefficiencies caused by poor scheduling, and even stop their control.

Efficiency

Price per square is the classic definition of profit, and the traditional corporate income statement illustrates this approach. It is generally that the selling price must exceed the expenses there is to be a profit.

Control of the price/expense relationship is accomplished through the management of each of the small parts of the business. The management control system must relate the price of each job to the expense of producing it. Consequently, the general a product line may be calculated its profit. The price levels of a profitable product combination are related directly to the expense of operating them.

Efficiency

Efficiency is efficient volume requires price, often there price per unit in determining unit costs. In a printing operation cost cost is composed by measuring the output per hour and extending it at the cost of operating for the hour. If a given unit is made in one hour, the output is of the given unit, with one hour in the unit, the unit cost is reduced. The reduced unit cost may result in a higher profit if the

profit is not affected, or may be used to justify a more competitive selling price, thereby attracting more volume.

There is a much greater range of differences among printers than there is in family operating units, indicating that the more profitable printers are the more efficient. This leads logically to the conclusion that the more printers should concentrate on increasing profits in that efficiency.

While each an other probably has more, it must be remembered that total profitability is the result of actually managing the many relationships of all the components of profit—and including one side and signed to the other.

ONE GOAL, DIFFERENT PERSPECTIVE

Under one concept of organization, individuals are assigned clear, real and definite responsibilities, which become their specialties. But vice versa, or he is filled, full size three basic categories—marketing, manufacturing and financial. There, in fact, there are a lot of number of even more specialized components. For example, the marketing pricing manager is concerned about getting the best price possible, the salesman wants to get the job, the personnel manager is interested in the effort wages and benefits have on employee morale, the controller is concerned about reducing costs, the salesman in fact that is when to get his phone schedule, and the printer has important wants to make the best use of his equipment. All these activities point and must be synchronized in working at a balanced situation, yet they all tend to conflict with each other.

The purpose of the management control system is to collect evidence, to find, providing information to those who need it from the same factual data base. The data may go out in different forms to different people, but if each manager understands the relationships of the various components of the profit situation—including those he can and should influence and those who he should monitor the responsibility of others—the understanding is more effective approach today job.

The second objective of the management control system is to tie together the efforts of the separate managers.

The management control system, therefore, is like a musical score. It lets each "player" know what notes he has to suppress or perform, and the result, under the direction of a skilled conductor, is harmonious movement melody.

This coordination of components can be accomplished by either

ing the simple schemata of the profit sheet, i.e. reminder to every manager that the goal is the total profitability of the company. The single functionarian and his staff will most contribute to the total enterprise effect.

Because each manager has a different degree of influence upon the various components of profit, he must understand how his work affects the total effect. With such understanding comes respect for the rights and problems of others, listening, selflessness, co-operation and intelligent compromise. We found a good illustration through Management 6, teamwork, which can take place when all of the managers understand how the nature of profit and how their efforts contribute to total company results.

SUMMARY

Profit involves four major components—price, volume, expense and efficiency—each of which influences profit through a series of intricate relationships with the others. Price is the prime manager's "territory"—for which management is concerned in managing the entire enterprise.

Management effectiveness is based on acknowledgment how the components work. Holding a different viewpoint makes different degree of influence on each of the components; each manager must see himself and work and to work, but also means contributing to the total enterprise effect.

To visualize the dynamics of profit, we have found that the schemata of the profit sheet were, obviously, to help managers who do not have a great deal of formal business training, or an unclear standing of accounting. As their understanding increases, they become more interested. Eventually they become quite precise and operate with confidence in areas that earlier they did not understand.

THE CONTRIBUTION CONCEPT:

Finding the Value of Every Job

"What will my profits be if I land a job? How will the profits benefit the overall profitability of my company?"

These questions are basic to management when one identifies with the need to consider the incremental value of individual actions, effect on the behavior of employees. To the degree that volume adds expense, it has less value. To the degree that volume can be added without incurring additional expense, it has more value.

Traditional accounting techniques do not supply the proper answers, because they do not reveal the behavior of employees under various volume levels. However, there is an approach to financial management that does give the picture as best as deal with the dynamics of the impact of volume on expenses, and hence on profit. It is called the contribution concept. It permits the manager to determine generally the true economic value of any segment of his business—a job, a customer, a machine or a department—because it reveals the contribution of that segment to total corporate profitability. Application of the contribution concept is particularly important in developing a profit-making strategy because it is management knows the exact value of a job or a given given asset.

THREE LINES AND A POINT

The contribution concept (see Fig. 11.1) is founded on the fact that in every company there is a profit line item. Certain fixed or



Fig. 1-1. The Contribution Concept.

prices, such as rent, depreciation, insurance, and income taxes will be present, whether one sells or a million units are produced. These expenses will increase as a company grows, but they tend to stay the same from plant to plant as capacity is enlarged. As long as capacity does not change, they should not vary—regardless of any change in volume. They are often called *committed* or *period* expenses.

A key important feature is the *total* cost line, which starts at total cost, as volume increases moves up across the fixed overhead line. This is the combination effect of the individual selling prices.

The most significant line—contribution to overhead cost—can be computed by subtracting the variable "mixed" cost (CMV) expenses from the revenue line. Mixed cost includes overhead activities on paper, ink, film plates, and any outside processing for special jobs, outside marketing expenses like labor and supplies, the CMV expenses are avoidable if there is no volume. Therefore, they are directly related to volume levels.

The vertical or full contribution line covers the fixed overhead line, as the breakeven point. There is, after all, no profit until an adequate contribution has been made to absorb the overhead expenses.

Whether the merchant has been accused of contributing to lower profit. Ideally, there should be as low a fixed overhead and as high a contribution as possible. A poor situation occurs when overhead is high and the contribution or additional volume is low.

Why Labor Should Be Considered the A Variable

Many printing companies do not lay off direct labor employees when they do not have any work. Because of this, and because they must pay the labor whether there is any work, they include labor as a fixed expense. While this is not really very different from including labor as a variable cost the long run is extremely dangerous. In order to maintain a competitive position it is absolutely essential that management recognize its responsibility to maintain the efficient use of labor. While there may be a few alternatives, work hours can be decreased through attrition, and by control of overtime, transfer and the scheduling of vacations.

Although the contribution interpretation is more flexible approach in pricing, it cannot be used as an excuse to lower prices. To consider labor as fixed would minimize the amount of contribution overhead and profit, and make work appear more attractive than it really is. Even the long run, competitive factor, the labor content of the sales dollar, leaving it as a variable variable. In the available, therefore, management must control labor costs as they relate to volume, and must find ways to make these variable.

Contribution Levels

There is a wide range of contribution or overhead contribution levels in the printing industry. In highly automated, computerized reproducing operations, fixed costs are very high and variable costs quite low. Therefore, the contribution to overhead and profit is significant—sometimes as much as 70 percent of the sales dollar. In these circumstances, the value of additional business is very large and, conversely, the cost of losing business is equally significant.

In most processes and hand-set machines involved in newsprint reproduction will run from 40-60 percent of contribution value added by variable labor overhead costs, the contribution may be as low as 20-30 percent. In these cases, fixed costs are low and contribution high. Therefore, there is, for, little or additional volume and low loss or minimal with decreased volume.

The Impact of Product Mix

By the time point, by the rule of simplicity, we have talked about volume and price in terms of single product environments. This is usually not the case as the pricing industry increasingly is forced to go through a number of separate steps or processes. The two jobs dramatically parallel the same volume in all processes, some are more complicated, others are less, while others may have a higher percentage of goodwill or history bias.

The competitive effect itself also is the creation of various utilization of the various processes. In any company, at any time, some work arounds are operating at capacity, while others are less than fully utilized. Product mix management involves pricing and scheduling decisions that weigh the maximum utilization of the total capacity. The contribution approach is primarily managerial to maximize the contribution profits of specific jobs or product lines that would serve to fill out capacity utilization under diverse national pricing strategies that would almost this work in the quantities desired.

The Impact of Volume on Cost

It is also true that price has an impact on cost and vice versa. For example, if it is true, cost increases, the higher the cost, the higher the price, the higher the profit.

The existence of an elastic market, defined by a price volume curve, demonstrates that the highest price goes not always for the best price. Instead, rather than cost increases, we are interested in total revenues and these are significantly affected by price levels.

The contribution concept where the high and steep part below the average that price levels, through their impact on volume, have an effect on cost. This results from the fact that the fixed production for a certain unit of production depends on the number of units produced. If, for example, the cost of a unit is \$1.00, then 1,000 units would produce a total cost of \$1 per unit, 1,000 units would be an average cost of only \$1 per unit.

There is also hidden relationship. The dynamics of variable costs are frequently affected by efficiency levels, the higher levels are often obtained at particular volume levels and efficiency product, more.

Price Impact of Production

The value of volume changes relative to the value of the variable cost. This really means efficiency increases as low, relatively, small price

changes made, participation, to very large changes in contribution. The following table shows the effect of a 50 percent price increase on contribution:

Contribution Relationship to Price Change

Existing Contribution	Price Increase	Contribution Increase
\$250	50%	\$375
\$500	50%	\$750
\$750	50%	\$1,125
\$1,000	50%	\$1,500
\$1,250	50%	\$1,875

Find Optimal Price Point (continued)

The goal of the pricing strategy must be to find the optimum point as a price that represents the total corporate contribution. This is done by measuring unit price breaks to produce the volume levels and product mix which optimize total contribution.

Total contribution is the result of multiplying the number of units sold by the contribution per unit. That contribution that provides the greatest contribution is illustrated the point at the apex of the curve in Figure 11.4.

In the descending slope, contribution per unit decreases and unit volume increases via increased volume to offset that a loss has been lost as a result of the price decrease.

In the ascending side, contribution (per unit increase) are more than offset by the amount lost resulting from lost volume.

For instance, a given point may be 50 units with 100 contribution per unit, or a total contribution of \$5,000. If the contribution per unit were 80%, at least 60 units would have to be sold in order to produce a total contribution in excess of \$5,000. It more could be sold, it would be a unit more. If less than 60 units were sold, the volume volume would be produced at the expense of profit.

Capacity Contributions

The contribution concept is applicable not only to the pricing of individual sale prices, but also to developing the all important strategy of capacity utilization.

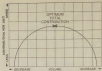


Fig. 10-11 Fixed-Overhead Costs

When operating at capacity, the printer knows he would never lower prices, because he could not handle the volume generated by the price decreases that should be under price or increase quantity, and in either case, how much? When a printer is operating below capacity, should he lower prices to fill his plant?—the volume he wants? Again, how much?

A printer must know four things before he can consider these questions intelligently:

1. His Current Capacity
2. His Contribution per Unit, and Total Contribution
3. His Current Volume
4. His Current Status as Investment

If he is operating at capacity, and his B/C is below target, he raises prices and does not expand until his B/C is at satisfactory levels. His tendency to raise prices until the art customer reacts in the form of price resistance. If he is at less than capacity, and is operating at a satisfactory B/C, he does a good business and likes to maintain the status quo. If his B/C is below standard, he must experiment with price levels/levels up and down and demand to determine to what degree

that his optimum contribution lies. If the book is well below capacity, he must take steps to reduce capacity and the associated fixed expenses.

In approaching the pricing problem, managers must find the optimum level and recognize that it constantly changes. When carried through the financial reporting system, the contribution concept provides information to show the behavior of corporate activities in volume changes. The more traditional approaches to cost accounting information in a firm consistent with these economic principles, the contribution concept provides the computation of the true profit value of each part of the business.

A printer, for example, will have a good idea about whether he can decrease turnover, bring a high volume, low price operation, or a high price, low volume operation—on his own when the market opens. Since he must be well LIFO and FIFO contribution per unit, or LIFO and FIFO contribution per unit, he is then able to make a contribution of volume and price to produce more than the LIFO and FIFO contribution which either of the two alternatives could yield.

OTHER APPLICATIONS OF THE CONTRIBUTION CONCEPT

In addition to pricing, perhaps the most useful application of the contribution concept involves evaluating whether or not to continue a product line. A financial and legal printer who produced four new styles in separate amounts and was in each of his product lines. He gave up \$500,000 of revenue from legal printing, he found he could eliminate \$250,000 in expenses and liquidate about \$250,000 of inventory.

Another printer who grew from 20 million annual volume to about 30 million in five years, found himself out of more than \$1 million in stock that was expendable with confidence because he had a very close relationship with the contribution concept.

The concept also is a valuable tool for evaluating the retention for the replacement of other facilities. In this age of rapid technological change, there comes a point at which other equipment is no longer possible. The contribution concept helps to accurately determine this point.

The current approach is machine considering equipment, in the form of either new equipment or a major contract that might enable the company to move to a new platform without the risks normally associated with such a move.

A PRIMER ON CONTRIBUTION

There are the great temptations to confuse the contribution concept with volume, and without restriction, but restriction is in order. As valuable as it is, the concept has one major danger—the tendency to confuse contribution with profit or, just as often, vice, to confuse EOP with total profit.

Before a profit can be made, each unit of volume must carry its share of overhead. The contribution concept reveals the amount of overhead contribution generated by each unit. If, however, too much emphasis is placed on contribution, management might be tempted to reduce prices in order to gain contribution and not volume. This, despite what early scholars (the danger is, again, that contribution may be better than having the plant at all) generating no contribution at all. It is the old principle that "half a loaf is better than none." However, the manager who fails to meet consistently and his prices in order to keep his requirements (keeping in mind he is filling the plant to capacity at prices that should generate enough to total contribution to cover overhead and leave a few profit).

The contribution concept, then, should be used to help management evaluate the attractiveness of cost and production decisions in a competitive situation. It must not become an excuse for constantly raising prices.

CONCLUSION

Every company has a profit situation, one that begins with fixed expenses, is throughput with volume, it adds revenue and variable, or cost-of-product (EOP) expenses associated with volume. The difference between the revenue and the EOP expenses is called contribution to overhead and profit.

The contribution concept is so important because contribution represents the managerial instrument and volume long business. It therefore becomes a major factor in developing a successful volume strategy. Finding the contribution that produces the greatest contribution to overhead and profit is the thrust of the price-volume strategy.

WHAT IS THE 'RIGHT' PRICE?

Developing a Rational Approach

Earlier we identified pricing as not only one of the three components of profit but more significantly, as the "linchpin" by which the value is delivered if the components are managed. Pricing gives the important focus that principle of expected behavior relation to values discussed in the last chapter as the contribution concept.

Fulfilling the specific rational pricing strategy is one of the prime objectives of a management oriented value—our objective that our business must represent in the design. For this reason, we will delineate as how we follow in the pricing strategy should be considered a pricing strategy.

Value and Pricing Methods

For the negative side, there is much evidence of price setting in pricing. As an indicator of the monetary relationship, pricing practices, look at the range of price levels below price, which frequently may be as much as 10% percent from low to high bid.

Most pricing has recognized the fact of value in competition with the other customer significant price setting. When faced with this situation, the natural attitude is one of skepticism: "How do they do it?" "What do they know that I don't?"

The answer may be that the competitor has found a new level of

efficiency for that particular product, or he may have developed a specialty, but this isn't always the case, rather just not often.

The apparent irrationality of pricing in printing can frequently be explained by one or more of the following:

A. An owner has done much

As every printer knows, large jobs can be quite complex. In a run, getting a number of customers, the low bidder may have missed something from his price, while the high bidder may have included something before.

Figures, which in particular are going to come, can be left out, or it can be anticipated on either the high or the low side. In one instance, a short-run printer included the paper plates on the lower end of the phoned-in. The customer forgot this and regularly added paper plates to each job causing the printer to overprint and lose profitable work.

Price differentiation can frequently be used to increase or decrease the interpretation of the specifications. There is the printing house's thought job is to be sure that all bidders make the same assumptions with regard to specifications.

B. The printer doesn't know his costs

Many printers do not maintain accurate and clear-cut and avoid hourly rates, valid production standards for estimating job material, and know the job cost summary sheets. Without such data, pricing is definitely a guessing game.

While the marketplace sets price levels, it is absolutely essential that a competitive house is detailed knowledge of the cost levels that the market doesn't want to do. Firms with this data can be able to move (the probability) of work be evaluated relative to marketplace price levels.

If all printers do not have the same cost data and cost efficiency levels for the same work, there will always have competitive advantages, particularly if they are specialized. It is logical to expect some differences in price.

A printer who has focused and thought efficiency gains is entitled more his least cost advantage to attract work. The price-cost ratio for the new manufacturer has continued working to make the market more honest and efficient. The degree to which printers of profitable business, and if the same time places himself in financial difficulty. This is particularly well-known clear in quantity, as it often the case.

II. The pricing decision is made exclusively by divided personnel:

In many companies, the pricing decision is made by the salesman. In a role he seldom recognizes nor understands. The good salesman can be very effective in placing a job and determining its value, but that is only one factor in setting the selling price. This important management decision should be made by a person who not only knows the price levels prevailing in the marketplace, but is aware of the impact that getting or losing a job will have on profits.

a) The company has no sound pricing strategy:

Pricing is often a reactive decision made for each individual job of management which doesn't understand the importance of product mix, is not sensitive to market price levels, has no profit plan that deals with the dynamics of the price/cost/volume relationship, leads to gross prices or the lower end movements or "When the company needs work, it goes to very low or, long times, its prices are on the high side. In other, poor decisions, either the moral of the moment, where there is a sound overall strategy reflecting the value of the work to the company.

B. Management is pricing to fill the plant:

One of the major problems in pricing is demand uncertainty, a problem that has resulted in purchases the technological advances in pricing, to get new equipment which increases capacity. Many prices with marginal older equipment still haven't filled it out of production.

The situation is also symptomatic of the uncertainty of pricing management to the importance of capacity utilization, which is reflected in past capital investment decisions.

Whatever the reason, many printers often find themselves in a cost-price trap. Under this condition, there is always the temptation to conduct a campaign for volume until the capacity and price ceiling is the quickest way to attract volume.

Last year, many also made when management tries to engineer a growth plan, or where a new piece of equipment is brought on line and volume is needed to fill it.

In the early 1980s a large number of dollar-on competition printers started up, offering very low prices to attract volume, particularly from major metropolitan markets. They were successful in attracting volume and numerous started out a very good position. But within a year or two they found that they had lost their cost advantage.

Because they could not sustain their low price levels, their share prices fell.

The same phenomenon took place in U.K. as traditional food stores succumbed to price competition. One pointer offered is that Ed Lee gave himself over to his established low-cost price to attract volume in his new price competition operation. There is always the possibility that he had found a new level of efficiency. However, since a similar phenomenon had been in the price competition field quite some time and had not found those kinds of savings, it is more than likely that he was simply trying to produce volume. At some point, he will probably realize that he had no need of getting the volume but without profits.

B. The printer has a low profit margin.

Interestingly, the price action around other consumer managers who make prints only themselves as to the levels of their profits. Apparently, either through ignorance or design, some consumer managers are willing to settle for less than competitive profit levels.

The implication is that when outside markets demand an adequate return, management is forced to recognize the need for sound pricing. We have this statement will be provided only by the consumer managers of the industry, most of whom have no very profitable firms. The idea are cases of publicly owned printing firms whose profit margins are not very reliable. Yet, the opinion that profit levels are a matter of individual judgment, with some consumer managers apparently being satisfied with less than we think necessary.

The Solution to the Problem

Only a few (many would suggest) have a ready solution to the pricing problem. People will continue to be people, willing with a whole unbroken and unbroken industry as now, there just are going to be the market's discipline. There always will be customers who buy on price and give competition against each other. If however really believe that the solution, there always will be engagement in the offering equipment to place in the market their needs, including those needs in the process.

Implication to the industry from a major part of the problem. When designated as a low-cost savings paper firm has almost to make a competitive assessment of the low level, regarding the same terms as the different operators—the right to compete without making his balls. Without the competition of the paper market, the low-cost

prices would have been unable to maintain spending, with the self-destructive pricing practice.

Finally, there always will be the question of whether prices who think for market economic laws, that low prices hold a promise for him that is limited return.

Therefore, he will always spend on non-reduction in his efforts. Let's not really hope for a gradual improvement, which can come about only when:

Prices become profit-oriented, or directing performance in terms of profit-related values or that in some other self-leading, reflection. Prices must show costs, which is the foundation of management control system. Furthermore, it leads to cost control and thus has for valid pricing.

Prices control their capacity, increasing motive to volume-specific relationships.

Prices develop cost pricing strategies which reflect a total price position and the dynamics of the volume/price relationship.

Putting the Price Where the Cost Is

It should be noted that the marketplace, not the individual prices, sets the selling price. The price can only exist in the competitive price levels—by either meeting the most relevant needs in the domain, or based on his evaluation of the probability of those levels. The pricing strategy developed by a price should ensure that each who is profitable to him, and should price him out of competitive work. This requires a knowledge of his costs.

When a price cannot bring his costs and differences to the point where he can profitably compete in a given market, his price will be high, and he will not penetrate the market. Simply stated, prices must reflect costs.

The statement to "putting the price where the cost is" is average pricing, a practice which means there, along for because of the discipline, average pricing means that the product is competitive in the market in management (consider that products, not who should sell for the who has the lowest cost). Under the average pricing approach, the price will be below the cost. Surprisingly, he doesn't sell many of the different because it is over the marketplace price, but he will a lot of the different because he has the lowest cost. In the first instance he would make inadequate profit if he continues to be a little on

the, in the latter instance the owner is left, the owner is left with a stock, average pricing destroys the profitability of the product mix.

THE FURTHER SELLING PRICE ITEM

If a printer accepts the prevailing market for still is based on the statistical problem of calculating a pricing strategy, and coming up with some means of determining the "right" price.

Figure 4, Table 1, is a long list of examples and suggests how these items (the owner) who is based on the practical application of several pricing theories to the pricing industry and to other commercial industries. However, the 1980's, he describes the technique of calculating a target selling price (TSP) as a means of calculating price levels.

In the following Table 2, we have worked out a table with this technique, and have found it to be useful in developing a sound approach to setting selling prices. It is an integral part of the management control system. What follows is an explanation of the construction of the TSP, and a discussion of its use.

Constructing the TSP

For many price setting and accounting systems have treated all costs as either Direct Order additions (DOA) or Commodity Costs. The DOA are added directly to each job, and are the primary cost of variable, or Direct Order (DOA) costs.

DOA's include materials such as paper, ink, film, and other, as well as outside purchases of subcontracted work. Developing a TSP for DOA's begins with the actual cost of the DOA. There must be added the costs associated with purchasing, storing, handling, and shipping for DOA's, as indicated, and to be considered in the cost associated with product creation, particularly with outside purchases. For example, if a printer buys outside cost handling, and the printer buys the ink, who is responsible for the cost of the paper and processing making the work?

All DOA's do not create the same cost. Within a single type of DOA, paper, for instance, there are cost differences. For example, in order to get a good grade, some paper is brought in large lots, relative to usage. The result is a very low inventory cost. Assume that a job uses 10,000 pounds of paper that costs 4 cents, and the printer buys 10,000 pounds to get 4 cents. The average inventory will be about 5,000 pounds, yielding an inventory cost of only about 2 cents.

Figure length is quantity; may have monetary value if it is not scarce. The wider range of uses will mean an equally wide range in change-cost which are related to uses. Handling costs, on the other hand, will not vary as widely, because they are related more broadly. The cost accounting system must identify the different costs so they can be properly related to the items.

Finally, the cost of the capital employed in inventories, accounts receivable and work-in-progress must be reflected. The techniquer handles this in the same as for production costs.

Conversion Costs

There are costs which relate to the operation of the manufacturing facility. In a printing plant, the lower order basic measurement of conversion volume, and costs are expressed as broad rates. Later we will study the technique for establishing these rates. At this point it is important only to realize the large need in developing the FMP.

Cost Goals

Conversion: Labor and Machine

Costs: Actual Performance

A Pattern of Targets: Actual Total Expenses

A Pattern of Targets: Contribution

1. Administrative Cost
2. Cost of Capital

→ Target Contribution

Target Contribution

Fig. 11.1: Cost conversion to target techniques.

Cost Goals

The construction of FMP (see Fig. 11.1) begins with the lowest level of costs—the variable COG. Obviously, COG costs are the pricing base. If a selling price does not cover the COG costs, there will be an unbridged loss. Using COG as the pricing base, the pricing decision determines the amount of contribution is realized and profit derived on each unit of volume, one unit base.

For instance say, low mark contribution that the marketplace permits. Including the contribution margin discussed in the last chapter, pricing is an exercise in deciding the proper unit contribution, which when combined with volume, will give the maximum contribution.

Overhead

To find the best production level, it is necessary to look at this most element of cost. The budget-planning and cost-account-making processes described in later chapters, are usually help management readily estimate overhead costs, to make their production estimates, in order to determine the amount of overhead to be allocated by each unit. Management must therefore know how many hours the units must work. By dividing these hours into the overhead figure less direct expense plus budgeted hours, it overhead per hour, we get the overhead per hour. If the volume figure is considerably less, the amount to be allocated per unit may be as high as to be over competitive in the marketplace. For the volume figure—based around the physical capacity of the units.

The combination of CMR and overhead costs produces an all-inclusive cost figure. If management were to call all hours reported in this figure, the operation would break even. Reduce the volume or increase expenses relative to volume, and the operation plunges into the red. On the other hand, all more volume or more lower expenses and the operation goes into the black.

Comparing the Cost of Capital

It is in the next step—that of determining how much profit should be expected—that the IIR concept comes into play. By implementing the whole or disinvestment (HDI) concept that we believe is the best, discussed earlier for profit determination. The aim of the IIR theory is that the profit as a unit of volume should reflect the cost of the capital employed by that unit.

In this manner, the cost of capital is turned in another position of reporting, overhead—disbursed, to profit centers, based on capital employed in the center. It is further allocated to the number of hours, sold in the center, along with the other overhead. (The mechanical means of doing this is covered in detail in Chapter 17, Developing the line chart.)

The amount of HDI should reflect the type of units employed in a given profit center, (as discussed in Chapter 10). All units do not require the same HDI. In this final analysis, as previously stated, the desired HDI is a matter of manager judgment. Whatever the figure, it should be comparable with rates earned on comparable investment alternatives—a fact ignored by the costs of money printing factor.

After costs of profitable operation, costs pricing comparison here

build up very strong equity positions. They do not have heavy interest charges or debt repayment schedules, and in many instances they are earning relatively low returns on capital. These returns may not be competitive with other investments, not only they present them to return on large amount of debt if money had to be borrowed at prevailing interest rates. Furthermore, they could not be used to justify replacement of the printing plant at today's inflated cost levels. For instance, U.S. Steel has a 1984 cash flow per ton an investment of \$150 per ton. But replacement of the plant would cost \$200 per ton. The point is that if you are not earning a sufficient profit on your current investment, you cannot justify increasing your capital—particularly if the return on the increased capital would be very low because of the inflated cost of the new plant.

An additional point is that equity capital deserves a return just as much as do other forms of capital. If the company has been fortunate enough to have acquired funds cheaply, the cost must be used as an incentive to strive for a lower return on assets. On the contrary, it should be taken as an opportunity to make a higher profit—by becoming a competitive return on assets and benefiting from the extra profit between the return and the cost of the money.

The Failure of Excess Markup

In the historic approach to pricing, is pricing—that of the "excess markup"—which knowledge have been used? Those have worked for a period of time and some have not worked at all. The companies have found accordingly.

Some companies have taken their raw materials and multiplied them by two and marked it to arrive at a selling price. Others have taken the direct labor, have multiplied it by four (the selling price). These work almost perhaps, but they actually have been used by numerous manufacturers selling prices. More sophisticated prices are based on base rate, either a manufacturing cost or an all-inclusive cost, and added a percent to develop a selling price.

These formulas may have been widely used since time when pricing was not a capital intensive industry. Today, however, excess markup is not supported by valid economic logic. The amount of profit (profit/turnover) is not a direct relationship to the amount of investment; it relates only to the amount of capital supplied.

Practitioners of excess markup tend to use lower markups, while the F&B concept develops variable markups. In practice, cost of capital can produce a markup as low as 50 percent in a profitably

utilized in producing them. In this way, total revenue for a given process—unidentified effort—may be identified, and the relationship of TSP to TSP evaluated.

Once identified revenue, TSP is used to evaluate the effectiveness of the price the company must quote to get work. If the marketplace consistently denies the statement of TSP, management must attempt to understand why. Explanations may include:

Inefficiency

Failure to obtain TSP may be an indication that you are not as efficient as others.

Efficient equipment

A form of inefficiency, this may be a particularly important cause of profit problems in the era of technological change.

Incompatible market

You are battling against the strength of another producer's specialty in which he has gained substantial efficiencies. The answer may lie here when you are getting a high TSP/TSP relationship.

Expense Problems

You may not have controlled expenses as well as competitors.

Market Conditions

There is too much capacity and the bid/demand ratio dropped too often, prices fell.

Measuring TSP and TSP

Whenever the owner, the failure to obtain TSP signifies a problem which management must move to understand and to correct. When management recognizes it is not getting an effective return on investment, it must, in the short run, have to settle for significantly less than TSP. If a company consistently quotes 10-15 percent lower of TSP for same work, as if its overall average TSP is under 80-85 percent, it should realize it has a problem and that time is becoming critical efficiency and TSP—no matter where its dependence on that work. Over the longer run, management should try to obtain its capacity to produce or markets that permit a higher return. Otherwise, it should develop plans to reduce its capacity and liquidate its investment as it will be available for more profitable opportunities.

It also is important to note that the T&P should not get away from selling price. Management often is misled that as a result of increasing efficiency (coming from development of a modern plant and a specialty), it can obtain prices significantly in excess of the target selling price, which means selling at 100 percent of T&P or more. There is nothing wrong or dishonest about this. It simply indicates very effective opportunities for expansion and profit. It must be made quite clear that management should not overreact regarding a request of its business unit, which is doing not covered T&P.

Combating the Threats

A continuing awareness of T&P/TSP relationships will make management sensitive to marketplace price levels. It will know under what conditions it can cover T&P and the effect an increase has on volume. Likewise, a deliberate collection from T&P may be avoided to use its effect on attracting volume.

This concept of price levels and their impact on market share is an important aspect of managing the pricing strategy—the "decide" or monitored action. Without the constant dissemination of T&P, it is very difficult to establish comprehensible price levels in the pricing industry.

APPENDIX 10: T&P, TSP, AND TSP

Typing is basically a means of establishing an agreement on specifications and price of the product between printer and customer. It is an important part of the customer-printer relationship. Each must recognize that specifications control cost and that when the specifications have change, the price also changes. If the cost is reduced, the price should also decline. If the cost is increased, the printer is entitled to a higher price.

The customer is entitled to know in advance what the quoted price means, and what will affect that price. He must know what the printer has agreed to sell him. The printer, on the other hand, is entitled to know that the customer has agreed to pay the quoted price for the product if it is produced according to specifications. If the customer changes the specifications, the printer wants to know that he is going to pay higher rates. He has taken care the customer understands what he has agreed to buy.

Because the typed printed product is usually custom designed and engineered, it is not always easy to come to a mutual understanding of specifications and their impact on price. Misunderstandings resulting from this confusion have some of the major problems facing printers.

the printer adequately presented, provided the job is produced as quoted. Very simple in administration, it is the most frequently used approach, particularly for commercial printers. Its disadvantages for customers, and often for the printer, is that there is no provision for changes. Even almost all job changes the customer is vulnerable to rate changes, and the printer runs the risk of not having profitable legitimate rates.

Ideally, both the open price and the lump-sum approaches work when there is a good relationship between customer and printer. The approaches work not because they validly articulate the cost of an increasing—why do not—cost because of the personal relationships of the people involved.

A more sophisticated approach is that of process quoting, like the *W&F* mentioned, made by figuring the time required for each process, along with the customer's materials. The approach identifies the work steps and presents them to the customer. The added detail seems to improve mutual understanding of the quote. The disadvantage is that it makes billing quite complicated and expensive. Moreover, it is very difficult for most customers to understand.

From the Customer's Viewpoint

Most customers find fault with any of the approaches described above because they don't solve the customer's biggest problem—that of understanding the economics of manufacturing the job as he can make appropriate value judgments. None of these methods supply the customer with the information he needs to properly manage the economics of his job. Without this information, he cannot get maximum value for his limited dollar, because he cannot know the economic cost of his design alternatives.

The Illustration

This is the presentation of the quote in product form, using *W&F*, *W & F* as platework provides the identification of the individualism: presents of a job, called "product modules." Each job is constructed on the quote and the money by compiling the product modules utilized.

This approach to quoting directly fulfills the customer's needs and, as a matter of fact, it is helpful to some customers that the obligation for the printer is a marketing commitment.

STANDARD, 1988 (CONTINUED) - continued

STANDARD

1. 12 Year School Bond (Series 2 & 3 Bonds) 200.00 -200.00 100.00

STANDARD, 1988 (CONTINUED) - continued

2. 12 Year School Bond 200.00 -200.00 100.00

STANDARD, 1988

STANDARD, 1988 (Series 1 & 2 Bonds) 100.00 -100.00

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STANDARD, 1988 (Series 1 & 2 Bonds)

the product approach requires three parts to the quote:

- A. Terms & Conditions
- B. Specifications
- C. Price List
- D. Application, or sample location

The Terms and Conditions are the business or legal considerations on which the transaction is based.

The specifications (Fig. 11-2) spell out what the printer is selling, and the customer is buying. If the specifications are complete, there can be no misunderstanding. Based upon them, a price list (Fig. 11-3) containing the appropriate product modules is prepared.

The price list is then applied to a specific item or sample (Fig. 11-7) of the job. If one is not available, application is made to a hypothetical sample. Consequently, if the job is finally produced according to the specifications, and if the product modules are utilized in the proposed quantity, the price will be a certain figure. Included in the list is that if any of the quantities or specifications change, the price will change accordingly.

The dollar amounts used in these illustrations are illustrative, and do not represent suggested price levels for the products described.

Preparing a Price Catalog

The techniques of product modules, and a module approach to pricing, opens the door to another useful technique—that of a price-reading. From within the basic product, the reading is applicable to virtually all types of printing.

Basically, printers have quoted work just as though it was totally unique, with each estimate developed from scratch as though the printer had never done anything like it before. The fact is that every job is not unique, particularly if viewed in terms of product modules. A thorough analysis of the work of any printer will reveal product lines—groups of jobs that are similar and are composed of similar product modules.

With this approach, it is not difficult to define standardized product modules. We begin by understanding that a given machine produces a product within a narrow range of specifications. The trick is to develop a base set of standard specifications that will fit most of the jobs. Minor differences, like quantity or degree of difficulty, are handled as adjustments to the base.

For instance, web presswork may be divided into single color, spot

QUESTIONS

THE WILLIAM OWEN PLAN

THE OWEN PLAN



CONSTITUTION OF THE WILLIAM OWEN PLAN

Page 10 of 10

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of the William Owen Plan.

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THE WILLIAM OWEN PLAN - Specifications

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Abstract: This article discusses the role of the teacher in the development of the child's language. It is argued that the teacher should be seen as a facilitator of language development, rather than as a transmitter of knowledge. The article discusses the importance of the teacher's role in the development of the child's language, and the importance of the teacher's role in the development of the child's language.



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Abstract

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Figure 1

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Abstract

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1. *Journal of the American Medical Association*, 2000; 283: 2689-2695.

Abstract

Abstract

value and present value. Single value may be further divided into simple time value, average first year with halfness, different value average, and initial halfness. A price list for the company will might look like this:

	Setup	Per hr
Installation fee per	\$100	\$100
Storage	\$100	\$100
Shipping	\$100	\$100
Insurance	\$100	\$100
Storage	\$100	\$100

If quantity affects price per thousand, price levels can be shown by simply adding additional columns of per hr prices. Each of the above items represents a product module. The basic customer price includes shipping and negative per page, two thousand (one for the customer), price and maintenance items. The per thousand price includes paper handling charges, ink and running time. If a book were composed of 100 pages, you would get the price simply by multiplying the 10-page product module by ten.

The use of varying, slowly growing, complex and specific up the process of quoting, and creates the customer that he is getting the specifications that provide the optimum use of equipment. Some work will need standard specifications, but even this can be modified by using the standard specifications as a base. The customer then can see how much of a price increase is getting to see a new standard specification. This is the use of standard product modules greatly enhances the pricing manager's ability to develop a book list price book.

How to Price

The value to create that the "P" does and how management uses a digital pricing level, a list price concept can be explained.

It is not how this works, consider for example a saddle stitching machine in the factory. Suppose the base cost for the machine, including, operation and two hand workers is fixed and make all modules in a "P" type of \$10. If the machine delivers 1,000 books per hour, the "P" will be \$1 per 1,000 books.

Management now faces the going rate — the price level — per 1,000 books in its market area. If it is \$1 per 1,000 books, management can sell at the \$1 rate or at any lower price resulting in an attractive price-volume relationship. If, on the other hand, the going rate is under \$1 per 1,000, management may have to reduce the list price

buyer's T&E's compare. But it does this with the knowledge that it is not making an alternative source, an investment.

From time to time the list price may be changed (in either market conditions or the company's cost list volume). It is a desirable trend in strengthening the volume/price-cost relationship. The list becomes should be absolutely under the influence of longer term changes in cost or investment levels.

Before the pricing committee list prices have been prepared, the pattern is ready to begin the sales efforts and to prepare quotes. The quoting procedure is discussed in chapter 14, *Profit Control*.

SUMMARY

There is ample evidence in pricing of very irrational pricing list, since which from the profitability of all companies must be that of the price volume. It is a total solution must be impossible, in view of the nature of our business, improvement can be expected if managers recognize the importance of the pricing decision and develop rational approach to it.

The first important point is that the pricing must learn to see the price volume the end is, an agreed to average pricing. One would find in the Target Selling Price (TSP) concept, a financial solution against which the price volume of actual selling price must compare. The quoting philosophy is one part of the pricing problem. The quote is the means of articulating the specifications and the price agreed on by prices and customer. The approach may have more price through long-term quote to any individual quote. It follows that each of these has the distinct disadvantage of not meeting the customer's own needs, the ability to understand the economics of producing his job. Without such an understanding, he cannot evaluate his alternatives.

The product module approach to quoting does meet his need, it articulates his price the standardized module-generated including, from, which simplifies the quoting process and establishes comprehensive price levels.

PART IV

Installing a Management
Control System

MANAGEMENT MAKEREADY

Creating a Sound System

In the first three parts of this book we dealt with theory and principles—viewing the importance of sound theories, and exploring many of the factors that should be considered as they are developed. The rationale for placing so much emphasis on strategic considerations is simple. A management group that understands the design and installation of a management-related system must understand management theory.

In this part and the next we will describe the design of problems of management-related, laying our solutions to our understanding of management theory. The solutions must be considered temporary—simply today's "state of the art"—because we are constantly reviewing, learning and improving. That is this way our system evolves.

We should also emphasize the wide gap between the potential of a management-related system, and its defects in practice. Initially, practice inevitably will be poor because the understanding by middle and frontline managers is poor. Their ignorance creates low levels of their initial acceptance.

The success of a management-related system relies directly on the extent to which it is introduced to the management group—i.e., present we call "management materials." The system is then much more successful if it is presented within the context of an overall management development program.

Management-related represents a very difficult communication

problem. There is the need to provide the system to management to must implement it, a group of individual management-unit with his own ability, and educational background and not psychological attitudes. The management control system must integrate individual efforts with those of the group—so build a cumulative effect directed toward the company's goals.

Designing the System

Many have seen companies designed formal management control system, while others have not—perhaps if they have the potential are unable to do so. The answer is that these systems are relatively new, especially in printing, and their potential has not yet been fully recognized. The potential must be recognized by management before the system that required is understood and tested a system will be completed.

The catalyst for creating enough interest to prompt management to explore the potential of formal management control system must come from management.

The ideal situation exists when a company is currently profitable, the management group is highly motivated, works hard at staying abreast of changing times, is open-minded, and wants management understand, and is committed to the concept of formal management control.

Less ideal, a company with a history of profitable operations might begin to search for growth efforts if experienced declines in margins, or financial conditions about the future. In the first case, the motivation is constant search for improvement. In the second, there is a crisis problem.

If the other systems are companies already in trouble, a last resort is related to a re-organization of the company—conditions are truly a crisis operation.

However, in the circumstances, the introduction of a management control system must be preceded by some catalyst that shows management's attention to the potential. A system does not just happen. It must be created. No management will make the effort necessary to make a system work unless it believes in it. The first step needed is recognition of potential.

First symptoms of a crisis

Successful systems are underpinned by management commitment, but perhaps the point can be effectively stated negatively—listing the

status of a chief executive officer with no systems experience and no understanding of the development of management. Unfortunately, this is typical of many growing managers.

Perhaps a real figure in the history of the business movement, or increasing difficulty in finding the right person to replace, or even the loss of a boss on his leader's team when he started like last boss. Just pushed his self-problems—out, inside, but enough to recognize that it's desperate or virtually, he cannot control the threat a management control system. Maybe he's hesitant to commit to a strategy, space, or business, or perhaps a slight young man who is middle management and he's a person. Possibly, even think of the whole, he may have had a good idea, "I've known things were going, actually, and I don't really know what to do about it." And the final result, "Well, we have just begun to install a new management control system—make us plan and keep us informed. It's worked wonders."

It takes a lot more, the process begins the manager with good ideas, experience, and a lot of other things. A company president is a subordinate. "I'm in charge of putting a company in and giving us management control system. Don't believe me because I want to run the company and make money. You just get the damn thing in and make it work."

Remembered in this story are the practical symptoms of a threat that will lead to certain disappointments:

1) Unrealistically high expectations.

2) Lack of top management involvement in and appreciation for the task of assessing, designing and implementing a new management control system.

THE DEVELOPMENT

There is no getting around the fact that a management control system cannot succeed without the positive commitment of top management...in the form of a definite decision that such a system is needed and will be installed. If top management is undecided, dissatisfied or divided, there is no way that meaningful progress can be made at lower management levels.

Developmental efforts of management should be expected when the concept of installing a formal management control system is first introduced. The last approach to managing themselves to manage:

must be recognized that its attitude begins to set the tone and climate for the entire organization.

A management development program—Management Methods—sets the task of cultivating the entire management group's understanding and acceptance of the plan. For without this group's interest, cooperation, and support, the control system will be likely even to get off the ground, certainly it will not achieve its full potential. But these conditions, in the most severe opposition, will themselves a combination of past attitude and understanding.

Attacking the problem of understanding is relatively easy, particularly if the system allowing allowed knowledge—it is simply a matter of education. If top management has properly understood the situation the system and has presented a general outline, it is left only, with the job of explaining individual changes as they occur. As the manager's understanding increases, they will become more workable with the system, their objections will subside, and many of the initial changes will generate self-interest and self-motivated efforts.

In most cases, improved understanding will solve most attitude problems. In the case, unfortunately, of individual diehards who do not want to cooperate, management must be prepared to deal with these heads, first hands, if they have national means, for opposing change, they should be helped to find where it is not emotional resistance, appropriate disciplinary action must be taken.

THE KEY PEOPLE

The key to creating the proper environment is the selection of the key management group. There are four key positions:

Chief Executive Officer
Financial Manager
Marketing or Sales Manager
Manufacturing or Production Manager

In some smaller companies, the owner himself may wear all these hats, he keeps complete, but it does not help him split the shares. The ideal situation, however, calls for four separate individuals, each competent in his own right. Management studies companies are where they cannot afford many top people, but perhaps this is only because they do not have the right people. One experience has been that good men and women considerably pay their way, setting the tone for the rest of the operation. If they are strong and

example, they will meet subordinates with comparable qualifications to solve problems, bringing properly qualified people to the company. If the top group is formed of weak individuals, the rest of the organization will reflect their inadequacies.

Classifying his situation as this top group, the printing manager must first define the skills and characteristics he wants these individuals to have. Then he must evaluate those persons in the plant to see if they have the needed qualifications. If the job is question is raised, he should look within his organization to see if he knows a qualified individual. If he has none, he should not hesitate to look elsewhere.

Clearly, these are the main characteristics the top people should have:

Chief Executive Officer (CEO)

Leadership: Not necessarily the big-ego type, charismatic type but strong, the ability to understand and communicate with others, to develop their talents, and to motivate them to achieve.

Interpersonal Interest: The ability to see things as they are and not as he would like them to be. This means maintaining objectivity and, when necessary, having the self-discipline and moral courage to do the difficult and the unpleasant.

Technical competence: No manager can master every aspect of an operation, but the CEO must have the intellect, experience and training to understand, in general terms at least, the nature of his operation, so he can communicate effectively with subordinates who do have the detailed technical knowledge. This way, he can coordinate their activities. Of course, the CEO also has some special technical knowledge in one or more of the functional areas will be that much better off.

Combine all of these traits with a desire to understand and handle any good manager, particularly if he genuinely there but he is strong.

In a publicly held corporation, the job of determining whether the executive officer possesses these characteristics falls to the Board of Directors. In a small, closely-held company, as most printing companies are, it may be left to the chief executive to evaluate himself. Whether managers, collectively, get too little to produce an honest assessment, making everything else academic. No company will be stronger than the top manager and others will a weak manager for himself. His company, therefore, will just continue to plod along one more.

Through the years we have had an open door policy, with regard to visits from other managers, and we have had the pleasure of their visits. However, a large percentage of our visiting senior managers will never see the CEO's of their companies, all too frequently, they were sympathetic of our ideas, but expressed concern as to whether they could survive their boss.

Our study research has been not to make use of the boss after years and created with him, and you may find him surprising. We have concluded, though, whether we are living under, making a man who told me advice, but to an unpleasant conclusion.

Under the CEO's advice leads—intention that leadership is part. However, not perfect—in management control systems in the world will work well. For the first step of management is leadership in the form to become committed and to provide the right atmosphere of a leader.

Financial Manager

He is a new breed in an industry where, traditionally, there have been bookkeepers or office managers whose roles and influence were subservient to the sales or production managers. That will no longer suffice. If there is to be an effective management control system, the financial report must play a secondary role. However, one of the outputs of the system is traditional accounting data, the accounting system and the management control system must be harmoniously interrelated—integrated in doing, the chief accounting officer with the control system.

The financial manager is the biggest threat to success of the whole operating/budget program and/or associated loss rates, a person who requires a detailed knowledge of the books of account. One of the duties of this position is the regular comparison of actuals, prices and volume to the budget. The loss rates are by-products of the budget and actual expense figures.

The financial manager should be an accountant, or at least have a good working familiarity with the subject. He also should have a knowledge of budgeting, capital structure planning, and other operating/budget techniques. Cost accounting and system design, previous are helpful but not essential. If the individual is otherwise qualified, the experience can be gained on the job.

We can find such an individual in many places, or there could be a synthesis of business schools, with other students in business

degrees, distinctive backgrounds. It emerges more often, even more frequently in public accounting, say, that tall wall, as does individuals on the financial walls of larger companies who would like to get into smaller company where they can be part of things; managers, fiscal focus. Some companies have fiscal referees from computer manufacturers or from the state of operating them.

The point is that there are many qualified people around, but they need to be aggressively sought out.

Marketing or Sales Manager

If joining company is more likely to discover a salespersonality on its staff than it is to find a financial manager. If the sales manager is not already contacted for most his brand elsewhere, of course, but this usually will be from somewhere within the company.

"A good salesman can sell anything," goes cliché-like adage. This is true—but only if the salesman knows the product. Since pricing is a technical product, it takes a good deal of time to know it adequately enough to let a topflight salesman. For this reason, it is unlikely that an individual who does not have some background in pricing can be quickly developed into a good sales manager.

In addition to technical competence, the sales manager must have a good grasp of the dimensions of the market, knowing what is required to be competitive. To achieve this, a topflight salesman must understand the importance of sound market planning, sophisticated marketing strategies, and be understanding the importance of a rational pricing policy. He must know how to work with the production operation to provide optimum customer service while still maintaining margins. In short, the sales manager is not just interested about the "product," but a vital part of management—in every sense of the word.

Manufacturing or Production Manager

Once again the story is familiar, for the time-tested approach in many companies has been, unfortunately, to staff with mediocrity. Furthermore, a further criticism just seems to work his way up the line, that it is important that production managers be developed by design, not accident. While the top manager in production should have a good technical background it is equally important that he be trained in all phases of modern production management—scheduling, quality control, industrial engineering, personnel management, etc. A manager is about as broad a general knowledge of all these areas and is

flexibility with the capabilities required of all those on board) can, and can be efficient operations.

In summary, therefore, to begin to solve the question of making personnel, if they do not follow the criteria, the C.A.R. must go outside. If, perhaps, his back his people are potentially good but lacking in experience, he can arrange to train them to overcome deficiencies. In any case, he must strike as his experience, making sure it is composed of the best men; he can attract. These men, in fact, must begin collecting their own information—gathering and evaluating them in much better ways than he has collected them.

Outside Help

A frequent question at this point is whether or not to use consultants, and this is understandable. Frequently, management has limited knowledge of how systems work and would benefit from the new ideas of experienced and competent professionals. The installation of a control system requires a great deal of hard work. If the management organization is already spread thin, visiting management might be hard pressed to manage the day-to-day effort and at the same time make real progress on the system.

The problem of using outside consultants involves both selection and the nature of the relationship.

In terms of selection, it is important to recognize that there are many capabilities in the consulting field. Because it is not always easy to identify them, a consultant should be selected very carefully.

A good place for the executive to begin getting information is from his company's banker or attorney. Neither do they have direct system knowledge themselves, but they are familiar with many people and companies in a community and can share this knowledge.

Another excellent source of information is from the trade association, and from competitors, because we are blessed with an industry that has a tradition of open exchange of information. Most of our engineers have experienced problems similar to ours. Some have found solutions; others show you how to select equipment—can you show you the equipment that can help. Knowledge and experience also can provide the qualitative investigation of alleged information, determine if it is correct.

Watch Out for the Jo-Creeps

Whatever the source of help, it is vital that the manager in need of help do not fall into the clutches of the potential handouts or software

supplier, who, while perfectly competent, may have his own set of special ideas and have the names of several consultants, and so familiar with their work, you can begin interviewing. That performance has become only the evidence of a single individual (he may be part of a large firm and have a well-known business philosophy, independent consulting's not own belief). Because it takes time to establish this kind of confidence, we suggest that the first assignment be consultants that will give you a chance to work together without a great deal of risk.

The nature of the relationship is important because it affects the results of the project. The goal, however, is only long-term benefits—not just a short-term improvement. Unless professionals take the time to make your people, the system will fall apart as the consultants leave. In the past consultants have advised, coached and advised, and have even managed to plan a system with no system change.

Some consultants will not operate in this way, wanting only to come in, design the system, and get out as quickly as possible in hiring an employee or other consultants. He gets you all the ground work, effort, and efficiency, but he has to build it, which is all we have to do. The plan is to build it, which is all we have to do.

Setting the Right People

At the project, a company needs to develop its own capabilities which will work with the size of the firm and the complexity of its management system. Whether from time or from a more efficient administrative team to handle systems, and then may be time. But this will mean that the future must be assessed by an existing job. One observation has been that some companies, regardless of size, must have at least one person to handle administration and all its details. By expanding this person's responsibilities to that of that financial officer, and placing systems responsibilities under him, along with his other responsibilities, the proper value can be obtained without all expansion. This is an idea that can be used about an internal management system—a "model of change" that helps the other operating people on their own.

"You are small."

How many times have you heard it said to you? Well, it is a cliché, and it must not be used. Small company management makes that they get the management skills they need from a position

may be liked with confidence for \$10,000 annually, but \$20,000 may get a good financial unit system; even, for a \$200,000 company, the latter may well make only a difference of 1 percent in the efficiency, pricing, volume and/or expected return to pay for himself. If a 10 million firm, he must improve results by only 1 percent.

Changing personnel or bringing in outsiders may be difficult and expensive, but if the existing personnel are prejudiced when one first attempts and if present personnel are not up to meeting the problem, the ultimate solution will be better in the long.

In the U.S. today, however, the industry is divided into profitable firms and those not making much of a profit. Further evidence is suggested by the fact that during 1952-53, while a number of companies were reporting record profits, many major firms went out of business—in Milwaukee, Boston, Philadelphia, New York, Baltimore and Washington. Countries other than the United States are worse than this.

The solution for sustained and sustained good health is a competent management team with the ability to plan and control results.

INTRODUCING THE SYSTEM

Assuming that the top team has been organized, it can begin planning the actual installation of the management control system. The first step is the introduction of the concept to the entire organization, whether that of building enthusiasm for it. This normally begins with a series of informal meetings or discussions, supported by formal presentations, and, ultimately, by making each person assigned to attack selected practices.

All kinds of management must accept and understand the system and be dedicated to making it work. For the system must fit in the company; what the actual business system is to the business itself. It must be deeply imbedded in the company, actually inseparable from it, with words and/or closely related to the activities of the system; that the system's functioning is systematic, like a reflex action.

All course, acceptance of the system itself might not be an obstacle. It is quite normal to find that many managers are negative about the progress of the system, their attitudes showing feeling wide range of resistance, from indifference and ignorance, to active resistance, often accompanied by facts, opportunities might range from simple indifference to outright sabotaging of the program.

Encouraging Realism

Financial control systems represent significant change. It is the psychologist's to explain why most people have a tendency to resist change.

Scientists can best be convinced by demonstrating that, rather than being a threat, the system actually is a tool that will enhance their performance and ultimately boost their income and improve their job security. Many motivated people and the leaders who are the efficient link between the individual's personal income and the company's results—being in touch with the most detailed internal and external factors for the company—must see that the individual has his own case.

"Why is a Management Control System Needed?"

The main thrust of the introduction should be an answer to this basic question. To answer it honestly, we must state that the complete financial condition of the company, including earnings levels, has shared with all employees, as well as all managers.

If the company is doing well, the proposed system may be justified not just for maintaining profits. If the company is doing poorly, most employees will tend to accept the system as a solution.

Some managers maintain that the average employee just does not understand financial matters. That manager says this is not so—that the average employee has a great deal of common sense, is well-informed in his job and many knowledge about what is going on. These managers believe that most men, not least those with a great deal of interest in increasing our progress, must people have forward money and paid interest, and must have had their big accounts over which they have received interest and returned their investment. For the concept is widely understood and is the best picture of the financial performance of a company.

Imparting knowledge about financial matters to employees, just think how greatly comparable it is for stockholders to have a great deal about their financial investment—either can make proper judgments about its value. Employees invest much more than stockholders. They invest their time and their financial efforts in their jobs. Shouldn't management, therefore, be as accountable to employees as to stockholders? Employees are not informants. They are partners with management and stockholders. If our progress, all should prosper. If our failure, all will suffer.

A few words suggested for justifying the system to the average state-

mean that management's decisions will be wiser than the information on which they are based. Even lower level managers will recognize that most of the data for the system will originate from reports generated by the workers on the shop floor. If the workers share and put in accurate data, the system will process the information better than its designers.

In summary, if there is to be no hired and fired managers and employees, a better system will result, because the people who know what is happening will be knowledgeable the system, will understand it, and will be involved in designing it. They people can make the system work.

At What Levels are Decisions Made?

The important part of our management philosophy rests on the premise that the best decision is that one made at the lowest possible level—and the highest. It is much more difficult to develop the communications channels that permit all decisions to be made at the top than it is to develop control techniques to regulate and coordinate the decisions made at lower levels.

More important, the properly trained worker at his own station on the assembly line knows about his job than any one else. If you run maintenance service and the line of decision-making, decisions made at this level, on activities at the same level, normally, will be much better than those made at the top. A substantial benefit is that the workers will be much happier and more efficient, and the business itself much more profitable. The top is where hardware is made, product is made, but it also makes mistakes—relying all performance to a committee and rule methodology.

It's not a knowledge, the need for other authority, or the worker knows what his subordinates are beyond his power and beyond his practice and use, therefore, restricted but a different, or a higher authority. But we emphasize that many decisions are best left to the worker and the work group. Peter Drucker says this:

"The highest of industrial jobs to do the work and to meet its standards, and the design, creation, and reworking of the work group in which these jobs are integrated into a team which are and should be the responsibility of workers and work groups. They need professional help. They need knowledge, experience, and teaching from their superiors."

They need advice and order from the industrial engineer and from many other technicians and professionals. Management must define a role pattern, and tell them even that it. But the responsibility for its design and work-group design belongs to those who are responsible for output and performance. And that is the worker outside the work group.

MANAGEMENT BY OBJECTIVE

One of the newest and most useful tools for developing management control is called Management by Objective (MBO), a phrase coined by Drucker in 1954. The actual system was developed by George Y. Odgers, and published in his book, *Management by Objectives*, in 1961.

The MBO approach deals directly with the problem of defining goals and objectives at all levels of the business, and coordinating managerial efforts to achieve those goals. It integrates the corporate goals with the individual manager's needs to contribute to overall progress, and to develop personally.

A prerequisite to using MBO is a well-structured organization chart (see Chapter 16) that spells out responsibilities, chains of command, and communications. At its best, MBO represents a participative effort at all levels of management. It is a rational, planned and coordinated approach to achieving corporate objectives by translating them into individual objectives, and an extremely important part of our approach to management control.

Going back to the Control Cycle in Chapter 1, you will recall that the planning phase of control, which involves establishing objectives, is the central phase of the cycle. Without objectives and a frame of reference, there is nothing against which to compare performance and no positive control.

MBO Begins With Corporate Goals

In the remainder of this book, Developing A Corporate Strategy, we discussed in detail the foundation of an MBO program—the establishment of corporate objectives. From these overall objectives, individual objectives are derived down through the management hierarchy.

The President sets his goals, in consultation with his officers or Board of Directors. This is followed by the Vice Presidents, who discuss their objectives with the President, and agree on a mutually

applicable set of objectives that support the President's objectives. The process proceeds progressively down to the human level.

The result is a system chart of objectives that have the effect of assigning responsibility, (see Fig. 13-1).

System Chart Objective Level Chart	Assign Title (Make the assignment!)	Responsible Person
A. State	1. Marguerite Eisenhower (State)	President
	2. Richard Nixon (State)	President
	3. Lyndon B. Johnson (State)	President
	4. John F. Kennedy (State)	President
B. National Goals	1. Margaret Hoover (Justice)	Attorney General
	2. Robert H. Jackson (Justice)	Attorney General
	3. William French Smith (State)	Attorney General
	4. Thomas C. Blanton (State)	Attorney General
C. Executive	1. Dwight D. Eisenhower (State)	President
	2. John F. Kennedy (State)	President
	3. Lyndon B. Johnson (State)	President
	4. Richard Nixon (State)	President
D. Military Management	1. Dwight D. Eisenhower (State)	President
	2. John F. Kennedy (State)	President
	3. Lyndon B. Johnson (State)	President
	4. Richard Nixon (State)	President
E. Policy	1. Dwight D. Eisenhower (State)	President
	2. John F. Kennedy (State)	President
	3. Lyndon B. Johnson (State)	President
	4. Richard Nixon (State)	President

Fig. 13-1 Setting of Management Objectives Program

The first step is for each manager to translate his objectives into specific plans of action. A good deal of guidance may be needed, particularly in the early years of follow-up. But gradually with the help techniques, the able managers will gain confidence and skill. They will then be able to develop their plans with a minimum of assistance.

These plans and the relationships progressively established support

of the objectives of the company hierarchy, and identifies difficulties that may arise (Fig. 11-1).



FIG. 11-1. HIERARCHY.

As the plans are implemented, performance is monitored and the results discussed at each level of the hierarchy. The company's strengths, weaknesses and capabilities are identified as objectives which can stay, or cancel, adjustments which serve as a feedback mechanism to trigger new projects and plans to correct problems. Feedback may also result in a review and modification of the objectives themselves. This ongoing cycle is shown in Fig. 11-2.

The prime goal of MBOs is to provide with it's effect that self-direction throughout the company's managerial structure.

Just as many companies have manuals which lay down the subject of a number of books, which describe the numerous activities the users have enjoyed. Because these books handle the topic so well, there is no manual's particular demand in the books. We simply will tell your attention for the technology, and point out that we need it as an integral part of our approach to management control. While we do



your idea of one idea, you are encouraged towards it and have to apply it to your collection.

Below I want a general, not yet to be institutionalized program. A very good approach to organizing management efforts is to determine and management (or determine) long-term commitment to understand and make it work. Including all the techniques as part of the management endeavor, programs for help in getting the introduction of a management system will be the right kind.

Suppose you are the background of an organization that will job description, not use their parts to the management by objective program.

First, to job planning is within description of how the job functions specified in the job description are actually performed. For instance, a manager's job description may indicate quality control responsibilities. The job planning chart should indicate exactly how and where the person fulfills these responsibilities. A good job planning chart will reveal areas that have been receiving inadequate attention. When initially writing the job plan, it is common to find that the person has more to do than time permits. This forces him to do a better job of planning his time, through proper selection of priorities and better delegation.

Second are personal improvement plans. Each manager is evaluated at least once a year, using some form of standard personal and performance rating chart which should be discussed with the individual. It is a solution, he should recognize his deficiencies and be willing to make an effort to correct them. For instance, he may need a better understanding of accounting, and agree to take a night course. The manager who doesn't seem to make a will improve his effort is clearly making himself as without solution.

Third are the projects. The manager should look at his area of responsibility and, objectively and thoughtfully, analyze areas of weakness. By selecting areas that need the most attention, he can develop projects to reduce the problems. He will concentrate his efforts on these areas to the exclusion of other less pressing problems which he can give attention at a later date.

By developing a work plan, including steps, schedule and objectives, the manager can forecast what is required to solve the problems, analyze the necessary support and responsibilities often around the business.

The three types of objectives collectively become the manager's objectives for operations during the coming year. He now knows where

expected of him and understands the basis for his evaluation. Whether he meets objectives will be obvious to both the manager and his superiors.

Summary

The first step in installing a management control system is called management education, a process that begins with every member of top management becoming aware of the potential of a systematic approach to management control.

After the subject has been adequately researched, the top management group makes the decision that it wishes to install a management control system. It is extremely important that its members become involved in the system and commit themselves to making it work.

Having made such a commitment, they must then generate specific, measurable results that will generate at least recognition, and, hopefully, substantial and understanding on the part of the total organization.

This means explaining why the control system is needed, and educating managers in how it will be used. It should be generated as a tool that will help them be better managers.

It can and can be included in management by objectives (MBO), a technique that helps to articulate goals, clarify operating results of progress. It helps each manager to understand what is expected of him and he understands how well he is doing.

DESIGNING THE SYSTEM

An Exercise in Logic

Designing a management control system is very much like designing architecture—a new house, for instance, which begins with the very general, and gradually crystallizes into the very specific. Usually the house begins with a general statement of what it is to be used for, the size, and perhaps the style of architecture. You set a target budget figure, then you should have many more requirements, and their general rules, and business decisions which must be consistent with the purpose of the house.

At this point the architect has begun to draw preliminary plans that state the ideas, but he cannot do a great job if he does not have properly articulated his needs. If the general statement of what the house needs or wants is not accurate, the deliberations will be confused through the whole design and construction process and the final house will be a disappointment.

The process of developing preliminary plans involves, first, an understanding of what is needed and, second, a creative approach to meeting those needs—both of which require a great deal of house-owning, trial-and-error, and compromise between what is practical and what is needed. Forgive me, but specific plans will come into your mind, and the client will have to modify his wishes. And subsequently, the general objectives will actually be modified based on a better understanding of the problem.

At some point in time, the client and the architect must agree, deciding that they have come up with the best possible design for

these particular needs. They then develop the final working drawings, with changes from this point becoming costly and time-consuming.

The actual construction of the house is therefore working drawings, which serve, in terms of management control, the actual installation of the system.

In this and the next four chapters, consistent with our analogy of planning a house, we will discuss the general concepts that should be considered at the beginning of the design process, then some of the more important aspects of detailed planning and, finally, the presentation of "working drawings."

GENERAL CONCEPTS

The Design Responsibility

The manager: Top management wants to develop a management control system, then get committed to it, and then have somebody else (management made ready) look at it serious and objective way.

The owner: "Who is going to do the design work?"

It was possible approaches, the first is a hierarchical responsibility—"vertical system"—to take the responsibility. The second is for management itself to take the responsibility. As one might expect, these designs and even broader approach, effectiveness and failure to such.

The first approach to system design is for management to take complete responsibility, the one simple reason—that we can should know more about the intricacies of running a business than its designers.

However, several problems are inherent in management assuming complete responsibility for system design. Many managers either do not know what their information requirements are, or do not know how to articulate them. Even managers who do feel comfortable in their ability may not possess the technical skills to do the detailed design work. It proves to be uncomfortable what he needs to equip is a house that not necessarily know how to work out the details that result in the working drawings.

There is also the problem of time. Management cannot ignore cost and operating responsibilities which may conflict with system planning activities.

Commitment: How and When

To begin with, managers are specialists and should have the

knowledge and experience in systems can deliver successful management might have disastrous work. Typically, however, they are not concerned with current operating responsibilities, they are not interested in the current projects, resulting in a much lower installation, and finally, there being an objective and back-scrupulous to the problem: their ideas stimulating and expanding the various projects of management.

There are, however, numerous disadvantages. The first is money—consultants are expensive. The second is the risk of poor solutions. There are many interpretations/consultants, a management group that is inexperienced in systems work will probably find it difficult to effectively produce the capabilities of consultants.

What the Consultant

Most project have an existing relationship with an consultant who prepares audited financial statements and tax returns. He is a known quantity, and if the project has confidence in him, one of the first persons considered for use as system work. If he has solid experience with management control systems, he can be a very good choice.

Unfortunately, however, many may have consultants considering their own system capabilities, not realizing that a management over-lookedness is not simply interviewing/consultants. To be sure, it includes an accounting system, but it must be much more than that.

The most serious problem with consultants is the risk that they will transfer complete responsibility for the system. When this happens, the system may not give management what it really needs/look/needs, what the consultants think it needs. This potentiality may be correct, but when management understands and accepts the system, it will not work. If the system ever gets off the ground, it will probably fall apart when the consultants leave.

Therefore, we have considered that the responsibility for design of the system must lie with management. If help is needed, it is best given when by one consultant—that is, one would use an architect when building a house. Management must stay involved, making the consultant work with and through the management group.

What to Do, What Not to Do

As management begins to form up its ideas about the system needs, it must also actively approach the current management control techniques. Some companies possess one's skills in the way of accounting systems, production control systems, pricing techniques, or selected

ing system that would provide a foundation for a management control system. It is to already have developed efficient systems for more sophisticated than that enables administrators in which they are finding. And without have already complete set of systems applications that would only be considered into a total systems approach.

It is not good that is important — when the business is desperately out of control, following means that that plan is to be made immediately. These management actions may be necessary to stabilize the situation and longer-term is to be taken — efforts must be postponed. In the absence of an emergency, administrator's responsibility of system that is more important than report.

The biggest limitation to the speed of systems development is management's ability to comprehend and anticipate its information needs. A management team with no system experience will not know what it needs to know — it must tell them as fast as it knows how. If words or words do not know advanced, it is dangerous to let the unknown (the unknown) tell management what it should know.

This means a system should be presented to a user. When properly conceived, system design should not be an extremely efficient means of management training. And with design, the design goals of production (from design to work) and goals with the system that it also produces (the user needs) the system which it will be that the user needs understanding of these needs. This manages, implement and interpret, giving the company a constantly updated system and better informed strategies.

At the risk of sounding repetitive, we emphasize that through that most managers that this approach to developing control systems will take years to complete. Even the long run, however, it is all yours the best expertise and will produce the best system.

Final and Final

As the first system applications come on line and you gain experience with them, you inevitably will want to improve. We explain here will you plan it how much can you give to the solution of our system and the development of operations make that will be necessary. For instance, if after three to six months of operating, the design requirements and features are continuously needed in the system, they should be a systematic way up with valid suggestions for change and improvement. This ability to have a critical and a good, to be able to work with a system that is difficult and impossible to change, will permit management to modify and improve the system as knowledge

and understanding grow from experience. The system self-corrects and improves with the competence of management.

In the beginning, a simple system serves its purpose well—by improving the level of management's understanding and, at the same time, by revealing its own weaknesses and deficiencies. When management starts using the system, it develops a reliable new level of understanding of its operation.

Prognosis vs. History

Management must handle the often conflicting requirements of information, but cannot neglect diagnosis with the requirement for timely historical records.

Unfulfilled plans, otherwise management begins to build a second management control system, it can be adding into the traditional accounting approach, which more emphasis is placed on the future—telling what has happened rather than what is happening and why.

There is a need for the auditor to keep up records in a detailed report setting forth the affairs of the business. It is important, however, that this not be done at the expense of equally important present considerations. Managers, as they observed, must change the future—they cannot change the past—and therefore they need reports in a time frame and format that helps them understand what is happening at the moment. Only in this way can information be evaluated and action be taken to influence the relevance of an event. Before it is too late.

In a sense, a management control system serves as a tool for a manager functioning in the same manner as a medical doctor. However, one health of his patient is what most interests the physician, who recognizes that he must begin diagnosis in order to avoid further complications. He cannot verify his existence by knowing why the patient died. Your car is either partly broken or is knowing why a proper failed.

The Single Data View

The conflict between processing and management considerations has led to modes of computer to distribute control sets of books. In the printing industry, job costing records frequently use traditional methods of regular accounting records, and in some instances they even can be avoided. This creates, in effect, multiple data bases in which reporting and storing of data over single transaction is done in several ways by different people and at different times—on approach

that is sufficient, more power, will lead to confusion and a loss of productivity.

One approach to management control systems is essential that all information relating to a specific event be accumulated in a single data base. From which information needed for a variety of purposes can be extracted. This means that a transaction is entered into the base once, then all needs/requirements/queries/inquiries can be satisfied reports developed from the single base.

Consistent with our evolutionary philosophy, we suggest that the enterprise designed including important issues installation and modification. Although this may not always make the most efficient use of computer capabilities or processing time, it will increase/ensure greater the use of smaller, less expensive computers and will be easier to understand and much less complex than a base designed as a single large entity. Such advantages will be found in words such as "flexibility," "changeability," and "expandability" will essential in problems to evolution.

DATA BASE STRUCTURE

The emphasis placed on a single data base requires that the structure of the base be carefully thought out. The information put into it is predetermined; information required is varied. This means that the first data structure being constructed is a definition of which managers need what information, and when and in what form.

The danger of data base management is that, on the one hand, it will be putting out too much information to too many people; that the requirement is limited in the information, and on the other, that requirement information may be left locked in the data base, unused.

A data base is given its structure in three ways:

- How the information is collected.
- How the information is created or given or obtained.
- How the information is used.

The design and building of a data base is covered in detail in the next chapter. Here, as we consider the general concepts/structure of a data base design, it should be emphasized that a management control system is nothing but a logical and efficient approach to information management. The system is the means; the information is the end.

Unless the information needs are precisely and completely identified, there is no point in building the system. For another way, the

system design requirements are created by the nature of the needed information. This is why management with a limited knowledge of system techniques can still play such an important role in designing the actual control system. If management does not know what is needed, who does? How can a system be designed to manage undefined information requirements?

Because most managers cannot initially define their requirements, we return to the need for system evolution.

Putting the Computer in Perspective

In the early days of the system design stage, management must deal with the selection of some means of data processing. The man, the electronically aware computer—which, to use the colloquial, "ain't necessarily so."

Coming to much popular opinion, a computer is not a panacea for system problems. One of the most dangerous methods management can make is to regard the computer as a magic box, a mysterious machine which at the push of a button will solve all problems. Others exclude the computer sphere of influence from power, as if man were insignificant being, capable of no wise process of judgment.

Management must remember that the computer is nothing but a machine. It cannot think, as humans can through programming. It can do an astonishing job of accurately recording, manipulating and disseminating information. But it can do only what it is told to do. This is man's job to do well, not to let it do it. If a management control system is totally computerized, it will work as a manual operation, as said knowledge machines. The introduction of the computer merely adds the ability to cope with volume, putting "volume" on an otherwise manual system.

Defining a Computer

First computer is faced with the task of deciding whether the need for computer is justified and if so how to select the best configuration for the situation.

The task should be approached like any other capital expenditure project with emphasis on its economic justification—the cost/benefit analysis.

The computer configuration required will be dictated by the volume of the data and the complexity of the potential applications. The computer should be kept as simple as possible and still get the job done.

The range of data processing applications begins with manual systems and goes through the varied intermediate to better capabilities. However, because there is a number of very attractive programs in computer payroll and job costing that are economically justifiable for getting with as few as 10 to 25 employees.

Computer payroll costing starts simply, and the demands for better capabilities immediately are higher than when volume of work is less than million dollars. However, this volume level probably constitutes the price for the use of another computer with payroll programs as opposed to more general configurations suggested by smaller programming capabilities.

A most important point for managers to remember is that they may be able to have a management control system without having a computer. Eventually they may need one, but even a fairly large company does not need a good deal of resources before facing the problem of management collection.

MOVING BEYOND JOB PLANNING

As management gradually becomes more familiar with the concepts of management control and the general definitions of the terminology in job, it can begin to work on the more detailed aspects of planning the system.

Interrelationships of Applications

More detailed planning means identifying and developing interrelated applications. At this point one of the most difficult and confusing aspects of system design is encountered—the meaningfully complex interrelationships of applications.

As just one example, consider the job costing problem. The costing decision is influenced by data from four areas:

1. The marketplace. This requires the data collected on the needs of another pricing activity, plus other needed information.
2. The company's profit plan. This should specify budgeted price levels.
3. The current and projected volume/capacity situation. When the pricing manager must know how much the work is needed.
4. Job costs. Determined by those rates that are developed in the profit plan, and combined with quantities of the work. Information must be accumulated through a time and material reporting system.

The job costing application is the result of a pricing system, which in turn must be interfaced properly with other pricing systems. Such inter-

quently find in billing, which refers to the recording and administration of accounts receivable, that are part of the back-end record. It is after the sales point into the sales sales and profitability analysis section, which in turn provides a basis for future pricing decisions.

Once major data base total systems approach, there are not few un-related applications. This description of the pricing application is representative of most.

Planning is Beginning

The complex interrelationships make the finding of a beginning point difficult. The best method of finding a beginning is simply to look at the existing system. This will not identification of problem areas, and establishing priorities to decide where the benefits of cost-cut are financially the most rewarding. There, then, become the key other applications which should be dealt with first.

Because each company operates in an entirely different business environment, with its own particular set of problems, it is impossible to generalize that, regardless of what you ultimately decide to begin, you cannot avoid the need for a well-designed data base.

The success of any management oriented system depends upon the stability of the data base that is to be the foundation of the system. There can be no effective system without the necessary information available in an appropriate form, when and as needed.

All companies have increasing data base, some of the information which management already is aware—although it may not be in a structured form. Equally important is the more critical data base—information that already is being developed internally at various points in the organization but is not being collected, documented and/or used.

This suggests that priority be given those applications that deal with building a data base. In-house application is the maintenance of the depth of record—the longer a company must do for at least three months.

1) Tax purposes

The Internal Revenue Service and most states require that tax returns be filed, and that income taxes be paid on profits. This record optional.

2) Profit information

Companies must indicate that even the smallest operation must be aware of its profits, or lack of them, if it is to survive. The income statements are prepared only annually, and in a simple format, but

it must be done. Fortunately, it should be prepared much more frequently—on line, than quarterly. Almost inevitably, the manager who fails to do this leads in trouble or looks for it.

(3) Financial discipline

Because most companies at one time or another must finance money, the manager must himself understand the financial needs of the company—in order to intelligently negotiate appropriate credit arrangements. Also, the integrity and accuracy of the information he provides will affect the amount of money he may borrow and the terms.

Using the books of record as the basis—element of the data base, and making provision for coding structures that will permit use of the data for other purposes is a very efficient way to begin.

Cost Accounting

The application of cost accounting techniques to the books of record is another very valuable an effective management control system. Many companies use books of record for financial purposes only, maintaining cost accounting records, if any, independently. One concern with this approach relates to the reliability and accuracy of the cost records. Unless they are complete and integrated together to the figures reported for financial purposes, the probability—actually the probability—is that inaccuracies will creep in.

Cost accounting, which simply the distribution of various defined parts of the business, is used to show which areas have incurred or benefited from which costs. The usefulness of a cost accounting system will depend on the structure with which management has subdivided the organization—taking as basis to the need for an organization chart.

There are similarities with the logical system both management based logically based data. Each both represents activity and/or price flow, and cost management—two financial strategies, as well as efficient financial systems. But cost accounting principle works essentially the same way. In pricing, instead of costs, we are dealing with profit centers, or as some prefer to call them, cost centers.

Cost accounting is necessary to compute those rates, which are required for developing "full costs." It also describes with contribution to the reduction of production.

In summary, a company must develop and install a total system strategy. It must find a logical starting point—one that solves the most severe problems first and has the most significant immediate effect on profits.

For when jobs are understood, there is survey that management evaluate the probability of its work, and so may lead to job given intelligently. Job rating, therefore, must be given very careful attention.

Remember that the system must get started, job rating requires lower rates, which initially can be estimated. To be really meaningful, however, best rates should be developed slowly and carefully as part of a sound budgeting system and as a by-product of the leader of sound.

Outline of the Applications

Figure 10.1 shows our approach to listing the major applications in a total management control system, and depicts their interrelationships. Each of these applications is subdivided into a number of smaller applications. Some systems analysts might consider some of our sub-applications as describing variations on major applications, or in some other point disagree with this presentation. But, it generally depicts the range of applications that must be considered in the design of a management control system.

Two Questions

The profit control chart in a planning chart may be divided into two related, yet separate questions:

1. Job Profitability
2. Profit Center Profitability

The applications may be grouped by general functional areas. As depicted on the chart, several groups are either job or profit center oriented. But, some of the application groups relate to both - as profits.

Job volume is generated by selling jobs as management decisions are logically job oriented. In order to evaluate the probability of a job, the cost of all the material and labor applied to the job as each profit center must be ascertained. We are concerned primarily with the pricing and efficiency to each profit center on the jobs that job. We also are interested in the impact of the job on the volume of each center, as well as the contribution volume impact of all jobs.

Most jobs progress through profit centers in some logical sequence spread over a number of days and weeks. The final results are not available until the job is completed and billed. Therefore, the job profit results reflect an interim contribution of production periods.

When evaluating profits from the profit center viewpoint, the emphasis is on what is happening in the center at a particular moment, or what happened during a particular day, week or month. The

profit analysis by profit center can have more accuracy than the job profit analysis. Further, production managers think in terms of performance at a particular center, since they are organized and paid through by center.

Using our product module concept, we build up costs by center. But, eventually, pricing decisions must be made on individual jobs. Efficiency relates to the production performance on each job at each center, so that efficiency standards tend to have relevance to both job and center analysis. Expense accounts are almost exclusively center oriented.

The applications also have chronological relationships.

They begin with the planning phase, which involves both strategy and operating considerations.

The selling phase involves the actual effort to build a capability and to attract work.

The job doing phase involves getting credit for the work, which feeds naturally into the execution phase—the actual performance of all the work.

After the work has been performed, there is a disengagement phase in which all the records are completed.

The last phase is that of analysis, in which the performance is evaluated.

For a detailed discussion of the applications, refer to Chapter 16. **END OF CHAPTER 15**

SUMMARY

The installation of a management control system should follow a logical process. One management has made the decision to proceed; there is agreement which general planning is accomplished. The focus of this planning process should be on defining information requirements—what needs to be known, when, and in what form. Management may be overwhelmed, but it must accept the fact that ultimately it must be responsible for understanding its information needs and designing a system that provides them.

In the planning phase progresses, the system will begin to take shape. Planning must eventually become quite specific. The manager will run into problems of the interrelationship of the many applications which under-standings is a daunting job—quite difficult. There is no single "right" place to start; rather, the company's particular circumstances—those applications which solve the most pressing problems and offer the most immediate contribution to profits.

Whatever the starting point, consideration must be given to structuring the data base.

BUILDING THE DATA BASE:

Soundness with Innovation

Having prepared the management team and selected the priority applications, we now turn to building the data base. Our task must deal with the components outlined in Figure 13-1.

THE DATA REQUIREMENTS

The question at the core of the systems design problem is: "What information must be known by whom, when and in what form?"

Let output information that is ultimately needed to run a system be input, or if provisions are not made to have it included as a later stage, the system will not serve its purpose.

One obvious approach to answering the question is to ask managers what information they need to make specific decisions. This may seem like a simple solution, but the problem is that managers may not know what they need or may not be able to adequately articulate their requirements. Managers also think they know their needs but actually do not, they do make decisions.

Another solution is for the system designer to attempt to know what management needs. One of the easiest ways to discover any other structure is to get management requests that are not helped, either because of lack of data or decisions in hand.

Finally, the correlation of management information needs provides hidden advantages for the system designer. Clarifying the needs



Fig. 1.1. Major components of the data base

involve managers down the line and extend the management methodology, while building interest in and understanding of the system.

In starting simple, management adapts experience with reports which do not cost great deal to generate and can be easily modified. This permits management to begin to understand its information needs and train its more intelligent and skilled participating officials in developing the final shape and form of the data required.

Structuring the Data

Information gathered at random and haphazardly dumped into a file is virtually useless, making structure the single most unique characteristic of a database. Think of a data base as a large number of subfiles, similar to the coding cards found in post offices. As the information is processed, it is placed in the appropriate subfile, so the user can refer to the further processing or dissemination.

Structure is achieved through a system of coding, in which each item of information is given an identity, meaning that a qualifying

operation is essential to the operation of a good management control system.

Other Design Considerations

The other components of a data base are difficult to discuss separately, because they are so interrelated. Data collection involves the source documents and the means of transmitting the information to the data base. Data storage and manipulation deal with what actually happens at the data base to produce the reports needed.

At this point, rather than deal with them separately, we will describe how various types of information are collected and how they flow through the system.

As discussed in Chapter 2, *Understanding the Executive's Problem*, the elements of control require that we identify the significant events, often appropriately coding information about it to give identity, the data must be reported to the central data base.

The original report from the control point is called the source document. There are a number of these documents, but two pointing about the following are more significant than any others:

- 1) time ticket
- 2) payroll voucher
- 3) materials ticket

A Sample Situation

Before going into details of the system, let's run through a hypothetical situation to see how all of the pieces fit together.

Taking as its significant event an "hour" worked on the plant, management decides it needs the following information about the hour:

- 1) where it was worked
- 2) what was being done
- 3) on what job it was worked
- 4) who it was worked by
- 5) what the output was in terms of quantity

A coding system provides source number to tell where the job was worked, to also gives an operation code number to tell what was being done—turning a piece, for example. There is a job number for the job and an employee number for the worker. Output is expressed in standard hours—1.000 hours, for instance.

All of this information is collected on the time ticket, and then entered into the data base.

Simply by processing this data, it is possible to come up with the total hours an employee worked so he can be paid accurately; all of the lower-workforce applications can be determined and forecast over projected horizons. In addition, the output will give valuable pricing information and efficiency measurements.

Feed-Forward

In the current management control system, the time ticket is probably the single most important document. It properly designed time-reporting system constitutes a major portion of the information necessary to develop a management control system (See Fig. 15-1). Without an adequate time-reporting system, a company cannot build a management control system. Even if it does have a system, its adequacy should be reviewed.

The introduction of a new time-reporting system is any major modification to an old system is time consuming, taking as long as three months to install and become completely functional even in a small operation. It could take six months or longer to work out the bugs and for everyone to become familiar with it.

Lines of Time Ticket Data

(1) Payroll

Payroll wage without exception requires that records of hours worked be kept for all employees, not merely those overtime hours. Good business practice also dictates proper record keeping.

(2) Job-Costing/Job-Budgeting/Analysis

In costed contract, pricing is the single most important decision made on a day-by-day basis. A key ingredient in rational pricing decisions is a knowledge of the costs on each job, which can be accumulated only by an accurate time-reporting system.

(3) Financial Reporting

We suggest monthly profit and loss statements. In order to do this, we must be able to value "work-in-process-inventories"—the one which work has been performed but which have not been completed or shipped. This is accomplished by placing a value on each hour accumulated for the job, as reported by the time ticket.

(4) Efficiency Measurement

In pricing, a great many variables affect efficiency. If not explicitly identified, measured, and measured, they cannot be utilized in pricing.

2) Cost Measurement

Consistent with the principles of direct costing, general costs of losses incurred are allocated to the profit centers where the work occurred. Loss chargeable illustrates the location the distribution of some overhead costs, the losses reported on the time sheet, pay and completed job. In determining the total costs of operating, a profit center.

3) Cost Rate Determination

To determine actual cost rate per chargeable hour, total costs are divided by the chargeable hours as reported on the time sheets. This is important to cost control efforts, as well as in setting selling rates per hour.

4) Volume/Quantity Measurement

First again, because they represent the hours which were sold, chargeable hours are important. By comparing them to available hours, management can make the critical appraisal of capacity utilization.

In later chapters, we will go into all of these areas in much more detail, but there are a couple of major details to mention. Regardless of the method used, all must be dealt with before there can be an effective control system, and managers be dealt with under the facts in fact into the data base. The best way of doing this is through some method of time reporting.

Time Reporting

Costing information must be collected for the time reporting before any of the techniques have discussed can be utilized. The sophistication of the system will determine the amount of data required. It's well known what we consider to be the minimum, including some of the more common options. However, there is no limit to the amount of information that can be collected. For example, one organization we know keeps detailed information on the minor employees of time for the work each day—what he gets, what he does, and what else.

Information from all such systems might only confuse and discourage the person who is not yet trained as a management control system. But the point is that once a management team gets "the control bug," only accuracy and imagination limit the type of data the system can develop and use effectively.

Report Preparation

Using the required information—employee identification, hour

and numbered, starting from the bottom (as good seats, and finishing from the ceiling. These good and sometimes better are computed. A time ticket must be issued to the worker's employee on the matter. If he has other day and week, the amount for the shortest, the longest, different, or equal amount, according to the matter, etc. must be entered on the ticket. This data is used to prepare the paycheck, and to update the employee's attendance record, which is a part of the personnel file.

Job Change

The job name and job sheet number are used to identify the proper job, while the credit price number indicates when the work was performed and shows the hourly rate that must be applied for overtime calculation and job costing. The number of chargeable hours for each job is critically important.

Efficiency Measurement

The number of actual chargeable hours and the good output and good improvement, but without perfect efficiency, to be computed, the operations made indicate the type of operation performed.

This is the minimum data required by the system. Note that it is used for most of the other applications, including cost distribution, time rate computations, and volume capacity measurement.

Kind of Time Tickets

There are as many different kinds of time tickets as there are printing plants, and therefore single right one. A good time ticket is one which is accepted by employees, is easy to use, and provides accurate information. The following considerations should be given in the design or selection of a particular form for a plant:

Employee Acceptance and Cooperation

Unless a day with the extensive method of time keeping on the flow, the employee will be the source of all data on the time ticket. If the employee does not understand the ticket, or if he is careless and indifferent as to its accuracy, or treats the ticket, the recorded data at best may be inaccurate or downright useless.

It is desired, then, that employees must be told on the importance of the time ticket and the relationship to the success of the management control system. There must be belief that this concern will enhance their job security and personal income.

The way to make this point is to emphasize that paychecks, as it

then some businesses and their companies cannot pay employees without collecting more. Indeed, a company purchases time from its employees and knows that time is its business. The recording of the time spent, who lets the company know who the time was sold to, which is the first step toward getting paid for the time.

Employees must understand that if customers do not pay the full price of the time they have purchased, the company is losing money, and revenue will suffer in the long run. At the same time, employees must know that if the company exchanges customer business for price, it needs the time taken to do the work, this work is ultimately lost to someone selling the same product at a price much closer to reflecting actual costs. In either case, employee job security is in jeopardy.

It is fundamental that the price be placed upon the work by the selling business. This cannot be accomplished without accurate time reporting, which requires the cooperation of all employees. Many companies place a great deal of emphasis on the efficiency measurement aspects of the time-reporting system. This is a valid and necessary function, but management should be careful not to use the time taken as a stick to get higher efficiency. This will only create resentment against the system and lead to inaccurate reporting.

Efficiency of The

"The time taken takes breathing life out and life makes production." This is one of the best metaphors management will find from employees. In some respects, it is valid, for taking out a time ticket does take time. The point is, of course, that it is time well spent.

This is not to say that nothing should be done to make the system more in use. But only in this respect, in terms of gaining the cooperation of the employees, but it is necessary to consider the goal of getting the information. There are three basic types of time-reporting systems:

1. Manual Recording-Manual Paying

In this system, the worker puts the information on the ticket while on the job. Some plants will permit time to be written in by company, not management that all tickets be purchased on a time clock. I have also observed that workers to keep the workman's card in their pocket instead of filling it in at the end of the shift.

The information on the work is given manually to laborers, clerks and other reports. Some systems use separate cards for

each posting, as well as after the week after they have been filed out, than for those under the job clerk system where their posting times. This saves clerical time, but in the long run it requires more time to check out a checked and then to provide work units sufficient enough to investigate what happened.

The computerized manual system is identical to today's system except for only the smallest computers—those with under 100 employees.

D. Manual Recording—Posting on a Bookkeeping Machine

In this system, the technique for recording is the same as in a better manual system, but instead of being manually posted, the data is posted on an electronic bookkeeping machine. Among a number of the bookkeeping machines now available, some have fairly sophisticated time processing capabilities and present an alternative for companies too large for manual posting but not large enough to justify use of a computer.

E. Manual Recording—Key Punching—Computerized Posting

Once again, the initial procedures used in manual posting are followed. After the data is key-punched manually it into machine-readable form, it is processed on a computer. A number of service bureaus make a specialty of this printing, indexing, and other good programs for the processing of time card data. They should be considered by any firm which cannot justify its own computer. Service bureaus also are used by many firms in consultation with their own in-house computers.

F. Computerized Recording—Integrated Computerized Posting

In an attempt to replace the previous ones associated with a manual input system by eliminating key punching, the assigned number of time out is automated techniques. In one of the most common techniques—card reading—the worker uses a special punch to place machine-readable marks on his time card which is then read by a card read-punch device.

Also used widely is a system in which card punches are placed on the shop floor and the worker punches punches the machine-readable card. Each system has its advantages and disadvantages, but if the systems are reasonably well designed and systems involved in installation, they will work.

6. 'Automated' Monitoring vs. 'Low-cost' 'Computerized' Monitoring

This is clearly the option of the future. Friendly 'chatting' with 'managers' of other systems; if business, instead of time sheets, terminals placed around the plant which automatically accept the workers' entries and record them on a computer file. On a more sophisticated level, certain robot safeguards may be placed in the system to minimize the possibility of incorrect data. In still more sophisticated systems, there may be a substantial two-way flow of information which allows the worker to query the computer for his job status, etc. It appears that this kind of advanced capability normally is used for production planning and scheduling, as well as time recording.

Automated

A time-generating, automatic data entry system that can generate no data at all...particularly if the measurements cannot be discovered and corrected upon entry if they were accurate. Regardless of the system selected it must generate very meaningful recorded values. Beginning with the initial reading of the document and proceeding right on through to the final posting.

Proper Payroll Data

After the employee completes the daily time ticket as shown in Figure 14-1, the supervisor must edit it. He begins a master Figure 14-1a reflecting the personnel currently assigned to him. He must have a one time ticket for each employee shown on the ticket, so that the personnel department can maintain accurate attendance records. He records the attendance status on the ticket for his direct use.

The immediate supervisor should be required to complete the *gross time*—both straight and piecework—the *net time* if on the piecework portion of the card and initial it, as shown in Figure 14-1b.

This is time-consuming but critically important because it provides positive evidence that a supervisor did in fact edit the time card before the workers. Labor represents a major portion of the cost of a growing plant, and business representatives must have first-hand knowledge of workers' hours and effort to set the time clock. From the employee's point of view, accuracy of pay is vital. If a problem arises, it must be resolved and corrected by the supervisor before his current data has been processed.

[illegible]

Introduction

Methodology

Results and Discussion

Parameter	Value	Unit	Standard Deviation	Correlation Coefficient	P-value
Mean	1.2	mm	0.1	0.9	0.001
Standard Deviation	0.1	mm	0.05	0.8	0.005
Correlation Coefficient	0.9		0.05	0.7	0.01
P-value	0.001		0.05	0.6	0.02
Mean	1.2	mm	0.1	0.5	0.05
Standard Deviation	0.1	mm	0.05	0.4	0.1
Correlation Coefficient	0.8		0.05	0.3	0.2
P-value	0.005		0.05	0.2	0.3
Mean	1.2	mm	0.1	0.1	0.5
Standard Deviation	0.1	mm	0.05	0.05	0.6
Correlation Coefficient	0.7		0.05	0.01	0.7
P-value	0.01		0.05	0.001	0.8
Mean	1.2	mm	0.1	0.01	0.9
Standard Deviation	0.1	mm	0.05	0.001	0.95
Correlation Coefficient	0.6		0.05	0.0001	0.99
P-value	0.02		0.05	0.00001	0.999

Fig. 1. Statistical analysis of the data.

in Figure 12-7) shows, the next step is to establish basic control totals.

Even in a small company, there must be a person or persons to maintain processed records and handle such matters as group insurance plans. It is a good idea for this clerk to serve as the control point for the collecting, book-keeping, and development of basic control totals on the time sheets. This person's responsibilities have been broadened as the clerk's income bookkeeping efficiency, and hence the required handling of bookkeeping operations.

The editing by the personnel clerk consists of checking the following:

- 1) Reported attendance hours versus legal time as indicated by time sheets in and out recording.
- 2) Check last day's night time and overtime figures to assure they balance with the total reported attendance hours.
- 3) Check the latest distribution pattern of the time for missing values.

Even when all of these edit checks, errors will still creep into the system, without further edit checks and careful management of the accuracy of the data, the time-reporting system will deteriorate. Inadequate time reporting is a never-ending task. If mistakes were granted, because it has been achieved in the past, you begin to lose it.

Estimating Straight and Overtime Hours

Straight hours are those for which employees have been paid—their number established in the control totals submitted for the processed sheet with the time-sheet package. A cardinal principle of the computer-based control system is that every one of these hours must be accounted for.

The human part of the time-sheet distribution is the edit hours. After book persons have been key-punched, an edit clerk checks for errors such as the one shown in Figure 12-8.

The computer can check for the following errors, or conditions, indicating a problem by the appropriate code:

Time Cycle

- A. Emp. \bar{p} not on file and not deleted.
- B. Emp. \bar{p} on file but deleted.
- C. Emp. \bar{p} on file but Emp. \bar{q} is zero.
- D. TIC if not on file and not deleted.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	

check is handled/checked/recorded by the computer. The fact of at least one person who gives every job a check number is sufficient assurance, in order that the job check can be performed by the computer. Because of the great potential of dealing with numbers alone, the combination of number and name is a big improvement.

THE POSTING VOUCHER

The time when value-added place is nothing is the management control system. However, it does have an indispensable, if less well-known, associate—the posting voucher—the document by which the debits are distributed to the proper profit centers.

Belonging to our single data base theory, our relational job name base does not do a transaction that usually—as the time is current and when it is being processed, it is important to capture all the required data at this time so ensure that the data base is complete.

Many policies simply are a traditional account payable control, with debits only recorded on each transaction. They then try to study the transactions after the fact in order to make cost allocations. This was the principle followed on the old job cost card for years by printers to compute labor rates.

The above posting voucher (Figure 14-1) is completed in three parts. The original, which is the voucher distributed for its specifying or about posting to the books of record, is filed in numerical sequence, creating a general journal. The third copy on the books should go through the voucher system.

The second part of the posting voucher goes into the journals due the credit payment date. The third part is provided as other voucher system, covering tickets and purchase order, then placed in the document payable for that number.

After payment, the second copy is attached to the other papers in the voucher file identified copy may be there many times the second copy now has date paid and check number. The voucher accounts payable file now has, in one place, a complete history of the entire transaction.

Costs Required

The information required for a posting voucher can be seen on the sample card, but the most part, it is self-explanatory.

Note that both the debit and credit entries are contained on the single voucher and should balance on every voucher. The order in



Fig. 10.1. Plotting template.

producer's expense reports the total profit under an expense account system. Every expense is profit under a number. If the number is one there but is specific job, that job number is entered, along with its materials and amount numbers. This permits inventory accounts to be maintained by job numbers and helps to cost jobs accurately when they are completed.

Data Flow

Once again, accuracy is critically important. There must be appropriate self checks to ensure that data maintain the system is correct.

The second diagram (page 11) shows which is now after the data is kept on hand, means to show that each number is in balance prior to its getting in the books of record.

In the next illustration, we see how the accounts have been entered into general accounts on an account balance worksheet (Figure 12-1). It is rather slow movement step across the system, as each account is hit and there are errors.

From this point on the information is processed even and other accounting entries, at least in terms of books of record. But, as we shall see, it is this time that have changed as to be processed that will be effectively used in many ways.

Pre-Order Order System

In preparing the pricing system, one of the most difficult tasks is collecting the proper data as the business develops. This requires the discipline of a permanent order system, which management must be used.

We suggest that everyone's information authority be required to fill out a data number in Figure 12-1b.

The form should be filled out completely, with particular emphasis on pricing data. It must, prices are not known at the order time, approximate prices should be entered to enable the customer to pay directly to make payment from the number's number, or other listing to book the books down to see that the order is in order.

The form also must enter the appropriate account number and/or profit order number, with the explanation that the form is the income. Finally, the order is to be the accounting department. If the department make a part of the system, understanding and interest are encouraged. The forms are not being turned into checks—no more. It is a self check—best, instead, are being turned into management.

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 CHICAGO, ILL. 60637

1960

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1	11	11	11	11	11
2	11	11	11	11	11

1	11	11	11	11	11
---	----	----	----	----	----

1	11	11	11	11	11
2	11	11	11	11	11
3	11	11	11	11	11
4	11	11	11	11	11

1	11	11	11	11	11
2	11	11	11	11	11
3	11	11	11	11	11
4	11	11	11	11	11

PURCHASE ORDER

THE WILLIAM SHERMAN FARM

BOSTON

NO. 11723



THIS ORDER IS VALID ONLY WHEN SIGNED BY THE PURCHASER AND THE SELLER AND WHEN THE SELLER'S RECEIPT IS ATTACHED.

DATE OF ORDER: _____

TO: **WILLIAM SHERMAN FARM**
 1000 Beacon Street
 BOSTON, MASSACHUSETTS 02116

FROM: **UNITED STATES DEPARTMENT OF AGRICULTURE**
 NATIONAL AGRICULTURAL EXPERIMENT STATION

QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
100	DOZ.	STANDARD BROWN EGGS	12.00	1200.00
100	DOZ.	STANDARD WHITE EGGS	12.00	1200.00
100	DOZ.	STANDARD BROWN EGGS	12.00	1200.00
100	DOZ.	STANDARD WHITE EGGS	12.00	1200.00
100	DOZ.	STANDARD BROWN EGGS	12.00	1200.00
100	DOZ.	STANDARD WHITE EGGS	12.00	1200.00

TOTAL QUANTITY: 600 DOZ. TOTAL PRICE: \$7200.00

DATE OF ORDER: _____

DATE OF DELIVERY: _____

DATE OF PAYMENT: _____

One copy of the purchase order goes to the receiving department and one to a receiving ticket, another alerts the accounts payable department that an order has been placed, and another goes into the job file so that it will not be forgotten until the vendor's invoice has been received and all work data is completed. The initiator retains a copy and the original is sent to the vendor.

THE MATERIALS TICKET

Materials, which also are known as descriptive additions, are added directly to jobs from inventory. In addition, tickets, a wide variety of forms are used, and the same systems and efficiency considerations are applicable.

The most significant materials ticket is the paper construction form. (Figure 15.11)

Other major items include film, plates and ink. The materials ticket, which may originate when the production order is entered, may be a separate ticket or part of a general check. A full description of the material should be specified, and the master job number, the work should record the amount used.

Paper control is best carried by sending a copy of the materials ticket to the receiving department at the time of issuance. This alerts the department that material was issued and lets it avoid delivery of the actual copy requests when the job is completed. Sometimes the inventory in the warehouse or storage room is handled in a "walk back" atmosphere. In this case, the report at time of issuance is the most dependable way of ensuring that everything issued is accounted against the job. Once the material has entered into the process, it is difficult to develop a dependable system of reporting every transaction to the costing department. Efficient reporting mechanisms are necessarily improved accuracy.

RECORDS OF COSTS PLACED

So far, we have outlined the basic master documents and the type of information required to build an effective data base—one of the unique characteristics of which is the discipline of the data. This is achieved by the costing structure—the means of giving each event an immediate identity, and ultimately associating it with other events in logical relationships.

Organizational Chart

The first identification requirement of payment is to know where it happens. That is the job of the code, which is considered a must add-on. Starting with a code, the address or code lets you identify departments, then divisions, and finally, individual boxes.

In the printing business, as shown in Chapter 11 the smallest unit of the organization is the profit center. These build up into divisions, which are grouped into departments, which become part of divisions.

The coding required to implement this identification process is a 4-digit number:

1 - - - -	Division
- - 2 - - -	Department
- - - 3 -	Section
- - - - 4	Profit Center

This permits each level to be subdivided into 99 separate parts. If a certain area, such as manufacturing, requires more than 99 subdivisions, a rigid linear progression must be established. In manufacturing, where in the coding structure the division is made up of departments (see in Text, the departments are coded in the top digit, the section becomes the second digit, the profit center the third digit, and the fourth digit is available to subdivide the profit center into multiple numbers (see Fig. 11-16).

Chart of Accounts

Next, the data base needs to identify what is happening. The accounting chart of accounts does this by defining, in fact, it allows management to know what is being spent. Figure 12-11 shows one suggested chart of accounts.

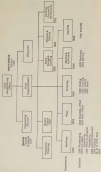
The important point to note is that expenses are grouped by behavior relative to volume. This permits the implementation of the contribution concept discussed in Chapter 11.

A Sample Center

Combining the organization coding structure with that of the chart of accounts creates a unique chart of accounts for each profit center, as shown in Figure 12-16.

A Sample Transaction

When an expense is incurred, it is coded with an eight-digit number—four representing the profit center, and four reflecting the expense account.



**COMPANY AND TRUST AGREES OF LUTHERAN
CHURCH OF LUTHERAN, LUTHERAN CHURCH
TRUST, INCORPORATED 1928
OFFICE: LUTHERAN CHURCH
1928**

Item 1. Name of Trust

Item 2. Name of Trust

COMPANIES

1928 - LUTHERAN CHURCH
1928 - LUTHERAN CHURCH
1928 - LUTHERAN CHURCH
1928 - LUTHERAN CHURCH

1928 - LUTHERAN CHURCH
1928 - LUTHERAN CHURCH

TRUSTS

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TRUSTS - LUTHERAN CHURCH

1928 - LUTHERAN CHURCH
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1928 - LUTHERAN CHURCH

THE TRUST AGREEMENT SHALL BE TRUST AGREEMENT
THE TRUST AGREEMENT SHALL BE TRUST

TRUSTS - LUTHERAN CHURCH

1928 - LUTHERAN CHURCH

Fig. 10-14. Trust Agreement

Let us assume that we have purchased Haskels for the 1987-1988 audit period effect years. Our organization chart tells us that the profit center number is 4226. The expense account number for Haskels is in the supply group, which is 1200. We know that it is an 8000-expense. Combining the two numbers we would code the transaction as follows:

4226/1200

Profit Center/Expense/Number

Visualize the possibility of expenditures in which the amount is an 8000 cost, as shown in Figure 14.16. Across the top are the four basic, or profit centers. In this case they are the divided effect years system, which total the divided effect years system.

There is the individual expense and the expense accounts. These tell us what was happening, expenditures in each center.

To make balance all accounts may be transferred into the multiplier subdepartment, all departments can be consolidated to a division total, and all divisions added together provide a company total.

Operations Codes

It is very important in the job costing and efficiency management applications to know the type of work performed. This information comes from data base through the use of Operations Codes.

Figure 14.17 shows examples of the operations codes used at The Williams-Sonoma Food Store. It should be noted that they do not provide the reporting in degree of difficulty factor. Ultimately, we will have to develop a means of doing this in order to help accurately measure production efficiency, and to be able to compare the actual degree of difficulty with that assumed in the quote.

Customer and Job Codes

Every customer is assigned a four-digit master number. This permits us to maintain a Master Customer Directory and allow all jobs performed for a customer to be compiled and analyzed.

The customer is further subdivided by two-digit Partitions or group numbers. This means that each publication facility is a unique customer, in order that all jobs done for it can be compiled.

When the work is not a production, this number can be used as a group number to gather data on jobs that may be similar. For example, a commercial printer may perform many jobs regardless for the same customer. The range of jobs may be quite wide, and in order to

100

Abstract

199	Wavelength
200	Wavelength Range
201	Wavelength
202	Wavelength
203	Wavelength
204	Wavelength
205	Wavelength
206	Wavelength
207	Wavelength
208	Wavelength
209	Wavelength
210	Wavelength
211	Wavelength
212	Wavelength
213	Wavelength
214	Wavelength
215	Wavelength
216	Wavelength
217	Wavelength
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287	Wavelength
288	Wavelength
289	Wavelength
290	Wavelength
291	Wavelength
292	Wavelength
293	Wavelength
294	Wavelength
295	Wavelength
296	Wavelength
297	Wavelength
298	Wavelength
299	Wavelength
300	Wavelength

100

Abstract

1000

[illegible]

The following are examples of the types of information that may be included in a company's annual report:

[illegible]

understand demand patterns they should be grouped. Suppose we are talking about production plans for products for a drug store. The grouping may be by the drug product—selecting the fact that the sales of that product will directly affect the total lot printed mounted in products it.

Finally, every job wanted to grow a low-slip job, or desired number. This is wanted when the job is wanted, and should when it is complete. It is used for setting and production control purposes.

The Customer/Job Coding System

Customer Number	XXXX
Product for Group/Number	XX
Job/Number	XXXX

Drug-Dispensing-Related Codes

In order to better profile our market, and to understand demand patterns and trends, we also use several other customer-related codes. They include:

- Geographic location of customer
- Type of customer
- Business's number
- Customer with business's number

Product Codes

A very important coding structure for market and profitability analysis is the product code.

We use the codes listed in Figure 1-1, in chapter 2, to discuss them. These codes, when applied to inventory, orders and product files permit the development of market and product analysis.

Because every company will not have the same product lines, each will probably have to develop its own product coding structure. This should be detailed enough to clearly identify the different products being sold, to what customers.

Product Inventory Codes

In order to completely analyze paper usage, inventory management and production practices, there must be a very complete paper product code. We use the following:

PURCHASE ORDER

FORM NO. 1

THE HILLARY SCOTT
CORPORATION

TEL. 100

21-100-100

THIS PURCHASE ORDER IS VALID ONLY WHEN USED IN CONNECTION WITH THE FOLLOWING CONDITIONS OF SALE AND TERMS OF SALE WHICH ARE PART OF THIS PURCHASE ORDER.

DATE

NO.

TO: THE HILLARY SCOTT CORPORATION
1000 N. 10th Street, N.W.
Atlanta, Georgia 30309

FROM: THE HILLARY SCOTT CORPORATION
1000 N. 10th Street, N.W.
Atlanta, Georgia 30309

ITEM NO.	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE	TAXES	TERMS
1	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
2	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
3	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
4	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
5	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
6	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
7	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
8	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
9	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
10	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
11	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
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55	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
56	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
57	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
58	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
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60	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
61	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
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66	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
67	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
68	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
69	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
70	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
71	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
72	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
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74	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
75	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
76	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
77	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
78	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
79	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
80	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
81	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
82	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
83	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
84	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
85	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
86	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
87	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
88	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
89	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
90	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
91	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
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93	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
94	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
95	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
96	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
97	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
98	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
99	1000 N. 10th Street, N.W.	1	1000.00	1000.00		
100	1000 N. 10th Street, N.W.	1	1000.00	1000.00		

Fig. 10-10 Computer Support System/Software Sales

XX 1000

XX Type (Red, Blue)

XX Speed (Fast)

XX Weight

XX Color

XXX Weight (Red)

XXX Ball Weight

XXX-XXX Short Size

The number looks like this:

11-55-11-55-11-55-11-55

This number is obviously easily manageable except on a computer, and characteristically places its origin. Whereas paper-type numbers usually set up at the start of the line position, it is assigned the correct number. From then on, whenever there is a horizontal in that line, the computer adds the printed number for subsequent analytical purposes.

Figure 11-1 is a computer prepared purchase order for paper that is based on this coding number. It contains the paper ordering number and revision file.

On the basis of the plan, we can see that numbers (11-55) are being added. Each order sheet is assigned a two-digit number. Whereas a single paper is issued, the number looks like this:

11-55-11

EXAMPLE

Every efficient management control system is dependent on a sound system of collecting, processing, and disseminating information. Without trying to be all inclusive, yet with enough examples to convince beyond the great mass of the type of information required, whether it is obtained — we have outlined the construction of a data base for a pricing computer.

The reader is encouraged to look beyond these examples to the concepts and to be innovative in developing a data base for his or her company. It is this data base, a valid corporate plan and a firm understanding of the economics of profit, are essential ingredients of all successfully operating management control systems.

PART V

A TOTAL SYSTEMS
OUTLINE

THE ANNUAL PROFIT PLAN

A Frame of Reference

Since the importance of planning has been emphasized throughout this book, it should come as no surprise that we think our Annual Profit Plan is an essential component of a management control system. Our meaning reflects the conception of a business management work-frame in which operating management is continually preoccupied—"battered"—with a better work-life for the demands of ever-changing problems solving. There is a tendency to focus on involved in the company that the total picture is blurred. We intend no ill effect for this time.

What you have to do to expand?

In an example, many planning companies are faced with rather pronounced business cycles. They go for weeks or months with a lower demand than inevitable low-demand periods. The other, under the pressure of peak demands, management will expand their business, but this involves the expense of additional the capacity during the subsequent slack periods.

The decision must balance the costs of lost profit from turning away work in peak periods with the costs of idle capacity during slack periods. This must not be a "moment-of-the-moment" decision reflecting only short-term operating conditions but, rather, a well thought-out decision reflecting the company's long-term development strategy.

To avoid becoming mired in operations, and losing the perspective

of the larger view, management should periodically and regularly step back and take stock of the situation. Long long-term planning efforts are a major source for the business and provide the knowledge and discipline to avoid impulsive reactions to short-term operating conditions.

Length of Planning Cycle

The periodic and regular nature of operations suggests a planning cycle, and raises the question of how often this should be done. The length of the cycle is particularly important in the nature of the planning effort. If the cycle are too extended, the plan cannot be adequately detailed, and will tend to be too vague. If they are too short, there will be trouble and time to develop an inadequate planning effort.

Our experience has been that planning can best be done when tied to the traditional fiscal year periods.

In the section on long-term planning, we talked about the many factors that should be considered in developing corporate strategy. These factors can be lined up in some order, but first they should be noted and assessed each year.

We suggest that an Annual Facts Plan for each fiscal year be prepared prior to the beginning of that year. The Plan, which is an extension of the long-term planning effort, is the means of integrating long-term strategy and goals with the company's operating activities. It focuses the plan for executing the corporate strategy during the current fiscal year.

Operating, Mid-Year

Business operating conditions change during a fiscal year. It is necessary to update the Annual Operating Plan of various periods within the year. This may be done through the use of quarterly-operating projections that reflect current operating experience as the year progresses. It should be emphasized that these projections are not revisions of the Annual Facts Plan which, once adopted, is not changed. The quarterly projections merely reflect more up-to-date knowledge; they are prepared at the beginning of each quarter and are compared to the Annual Operating Plan as the actual operating results.

The quarterly projections are another indication of where you expect to be relative to the Annual Facts Plan. Based on this comparison, various management decisions—personnel manning, materials acquisition, equipment, facilities, financial decisions, pricing and capital

needs...may be modified as more clearly reflect actual operating conditions.

If the Annual Profit Plan calls for sales volume increases in a third quarter, and the third quarter quarterly production indicates that this volume is not going to develop as planned, then management is alerted that it must make appropriate adjustments in the other components of the plan.

Annual Profit Plan vs. Annual Budget

In Developing Budgeting a subpart of the Annual Profit Plan, the plan is not intended merely to create a budget. It also involves the actual operating plan that has cost the position each manager and department. This means that the annual Profit Plan encompasses the total Management by Objective Program. (See Page 261 later)

A budget is essentially a financial plan, and an such plan will be meaningful only there are two operating plans to achieve the goals set out in it. It is easy enough to see that there is going to be a 20 percent sales increase, or a 10 percent increase in efficiency, but, what's going to make it happen? How will they do it? The Annual Profit Plan, then, flows itself as three types of operating operations through its Management by Objective Program.

Keep in mind, therefore, that while the emphasis in this chapter is on budgeting techniques, the budget is simply just one of a number of planning efforts. When we say "Profit Planning," we include budgeting, and a great deal more. (See Fig. 26.1.)

Planning: a Program of Adaptation

One of the initial reactions of managers unfamiliar with planning techniques is a fear of being wrong. This is particularly true if there are major responsibilities those which shape the future. Often, commercial printers with relatively short horizons and small budgets agree that they cannot prosper as accurately as potential printers.

Managers who make this argument miss the whole point of planning. While accurate planning leads to better and more predictable situations, the greatest benefits of planning are found in the most unpredictable situations.

This is because planning is not predicting but, rather, creating a future of options. The business creating a leading expects to be thrown off-course by the future which he is constantly comparing his actual heading to the desired one, and making adjustments. This did not know what his desired heading was, and did not know his actual

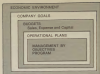


Fig. 18.1. Levels of the planning process.

leading, however, not unlike comparisons, and would have no sense of direction.

We like to think of goal planning as developing a formula, not in which that of all, all of the variables are identified. The formula might be:

$$A + B + C + D + E + F + G + H + I + J$$

This formula says that the result will be the sum of the variables. Assigning values to the variables results in a value for the result:

$$1 + 2 + 3 + 4 + 5 + 6 + 7 = 28$$

If we assume that 18 is an acceptable result, it follows that we have a formula that provides an acceptable answer.

We can approach the analysis of actual results in many ways. Looking at each variable, we know what value it should have to yield a specified result. If the value of one of the variables begins to change, management can identify it, and assess its impact on the total formula. If this occurs early in the cycle, problems are anticipated and corrective action taken.

When the result is not the number planned, it means that one or more of the variables have deviated from plan. Early six can indicate

which was, accepting that the problem is localized and identified—leading to a solution.

Every planner knows he must make assumptions. If he is sensitive to their potential deviations, he consciously weighs probability against its impact on the total profit effect; a procedure that permits him to develop contingencies plans. Continuous tracking of actual results in plan, will provide the feedback necessary to know when the contingency plans must be implemented.

In summary, the profit plan identifies objectives and the formula the performance necessary to achieve it. Although it contains elements of prediction, its more important role is as a basis of reference as management knows at all times where each variable is relative to the objectives.

PREPARING THE PLAN

Building from the Bottom Up

The First Commandment of profit planning is **THE BOTTOM UP OF THE PLAN IS KEY**.

In the short run it is quicker and cheaper for the financial manager simply to request sales, costs, taxes, and profit figures, and publish his profit plan. But this is a tactic which does a different kind impact on profits and, more over, will take substantiating with management morale. Inevitably, such an approach results in a defensive and adversarial atmosphere.

Successful implementation of enough profit planning must be a **TEAM EFFORT**—getting support from all levels of the management structure—starting at the bottom. Starting there is an important part of management maturity because it develops interest in and understanding of the data base by each manager. It is a means of focusing each manager's attention to those factors that contribute to profitability, thereby helping him to better understand his job.

Improved interest and understanding must be a result more or more plan. More significantly, the manager is then willing to accept it and commit to it, which are basic prerequisites to effective profit planning.

The Planning Cycle: Understanding the Data Base

As you will recall from Chapter II, the beginning point of the Control Cycle is the Data Base—that which is known at the moment.

Planning efforts always must begin with an understanding of the data base—its contents and significance, and the Internal Profit Plan which is its exception. It begins with an assessment of where the company is today, and growth is developing the place that will produce the results management wants.

The discipline of having to understand the data base, including the meaning of each item of income and expense, will result in improved operations. Many operating problems simply are bad habits that have slipped in over the years and have gone unnoticed. These are what they are easily corrected.

"The Budget Is Wrong"

The most important lesson for understanding the data base is that a planner cannot prepare the future if he does not understand the present. Typically, in the early years of profit planning efforts, management spends most of its time becoming aware of the details of its operations for the first time. When the plan is compared to actual results in the early years, and there is a large deviation, the response is frequently that "the budget is wrong." If this was the case, it was wrong because we did not know enough about the firm to plan accurately. The awareness of the inaccuracy should mean that the budget is not wrong next year.

The suggestion is indicated that if taken from those in first-year institutions who have studied Profit Planning Procedures. Even after that, there almost always will be progressive improvement if the practice is followed seriously. During the first years, the lack of understanding of the basic concepts of planning and planning techniques, along with the limited knowledge of the data base, will inhibit effective planning results. If the knowledge of actual results compared to the plan is provided throughout the year—monthly and quarterly—knowledge of the program's disposition progressively and the Internal Profit Plan will show it.

The Time Frame for Preparation

Thorough preparation of a profit plan takes time—starting in the year planned to start and developing gradually until each variable is brought up to date with the last effects produce the desired results. Therefore, time must be allowed to develop the plan as many times as necessary, until a satisfactory profit forecast results.

It is definitely essential that the plan be known, and introduced prior to the beginning of the first year. If not, it indicates how its impact

pre-diligent input. Early development of the plan may mean the plan is somewhat flexible before it can begin to influence operations. Those still lower-level managers will perhaps not be convinced a sign that the plan really is not considered that important.

In a company over 100,000,000 employees, as had that profit plan development taken about six months. In a smaller company, it might be reduced to 2-3 weeks or three months. In some large companies, initial planning efforts for a profit plan must start as far as a year or 18 months before the beginning of the applicable fiscal year.

The following discussion outlines the profit plan preparation schedule we used for Fiscal Year 1991 beginning July 1, 1990 (the William Reed Firm) (Fig. 10-1.)

THE PLAN

The Overview

Organizing the Profit Plan is a very big task that needs to be the efforts of many people. It is not done in one effort. It has already been pointed out, it usually requires a number of planning cycles to get all the details planned down to obtain satisfactory results.

Without proper organization, the effort will be conflicting, and the results, even if good, will not be understood by the people who must make it work. Therefore, further progress in the detailed work component of the plan, it usually is helped to prevent its execution.

We discussed in Chapter 11 the profit variables of a planning business as constituting four-legged the "Profit Plan"—volume, price, efficiency, and expense, which can be drawn upon to clarify and organize the profit planning efforts.

Volume/Price/Capacity

The Profit Plan must begin with volume projections because this is the base against which all other variables must be related. The first consideration in projecting volume is an assessment of the general economic climate, the impact on the demand for planning, its growth, and the volume of the individual company in question.

In the process of projecting volume, consideration must be given to price levels, unit price, and the impact of changes in them. In the same time, capacity must be considered. As an early stage in the planning process, management must, in effect, however not a critical and favorable volume/price/capacity relationship.

Management cannot finalize this relationship until it projects all-

objectives and expense levels. Efficiency will have an impact on unit costs (disincentivizing any desire to reflect in unit pricing, incentives to generate more volume). It also will impact expense levels, which, in turn, must be in harmony with volume.

Phase Three

Having confirmed the planned location of the key variables, the next step is to complete the Profit Plan, the basic financial determining unit (costs and selling prices). If these items, which form a complete part of the planning picture, are not reasonable in the marketplace and consistent in terms of the internal components of profit, the whole Profit Plan will be impossible to administer. Because it is so important and complex, the Profit Plan will be discussed in full, in Chapter 12.

Next comes the preparation of the detailed operating requirements support the volume and efficiency goals.

The management by objectives program is developed parallel to the financially oriented portions of the plan. For instance, volume levels must be translated into sales plans for each salesman or region.

The final stage of the Profit Plan involves the consolidation of all the judgments and financial statements.

Now the plan must then be implemented; the conclusion is its presentation to the management group—the manner of presentation is far as much as how to build confidence as well as understanding. While this may be the end of the planning cycle for this particular year, it marks the beginning of the operating cycle—the “kick off” of the operating budget, now costs. From this point on, we are pricing for real money—into real profits.

For the balance of this chapter, let's discuss the integration of the budget planning process. Figure 10-1 outlines the steps that should be covered.

Economic Conditions

Even though it is followed by internal flows which shape its economic environment, while a Profit Plan is essentially a means of managing the internal profit variables, it must be contemplated within the context of the anticipated economic climate.

The Planning Process should begin with a review of both the national and local economic climate. An accurate assessment includes influences of inflation rates, materials availability, an interest rate—these the face of the currency, the demand for printing has already guaranteed the Gross National Product (GNP) levels. Therefore, all

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prices are affected by the general level of economic activity. However, banks indirectly influence operations because of their integral involvement in buying decisions, which determine the printer's business.

An analysis of the general economic situation should influence the printer's plans in three very important areas. First, it should be related to his capacity management decisions. In overcapacity, as there is little the printer is not profitably producing, the entire operation will tend to be expanded, whether or not some of his customer prospects. This means he will extend his capital spending, as well as his buying positions.

Second, the same logic will influence his capital structure financing decisions. He will not choose to be overcapitalized in this atmosphere. And, finally, his assessment of the economic situation will reflect in his pricing decisions. He will recognize that the rate of inflation will impact his costs, which must be reflected in his prices. Realizing this is the fact that, while cost increases may be passed along in good times, they are difficult to recover when demand softens.

"Chicken-or-Egg?"

How can volume be projected without a rational pricing strategy? But, how can you develop a pricing strategy without a knowledge of existing volume and profitability and, most important, the initial volume/capacity relationship? This is the classic "chicken-or-egg" problem. While there must be a starting point, the whole exercise must recognize the interrelationship of price, volume, capacity. The ultimate perspective should reflect the optimum in terms of overall profitability.

Although it is not the only logical approach, one way to begin is to ask two questions: "Is there a pricing problem?" and "Is there a volume/capacity problem?" The answers to these questions will provide the context for subsequent volume projections.

Existing Price Levels

The statistical publications provide general measures of price levels.

The printing process uses but one established relation to *Fifty-Fifty Selling Prices*. If the company has a satisfactory gross margin, even at *F&F* rates or below, the market is accepting the prices, and there is no problem. If, however, there is a high percentage of net

system of these price levels, and the problem can be corrected only by lowering prices, there is a pricing problem.

Alternates are considered; each job is analyzed for profitability. One test is the comparison of LIFO—the Actual Selling Price—to TLF. When this comparison is poor, and efficiency problems are indicated, this indicates a pricing problem.

Correcting the Problem

If price problems exist, they cannot be corrected by immediate changes; they must be discussed and worked out among managers, product-by-product, and often job-by-job.

Pricing problems resulting from ignorance of costs are probably easier to solve than those from competitive pressures. But pricing problems that have their cause in pricing must be corrected carefully without disrupting the company's volume base.

In the profit planning phase, the goal is to identify the problems and bring up with the best solutions—all factors considered. The plans to implement the solutions are included in the accompanying Management by Objective program.

After outlining the economic assumptions established earlier in the planning phase, consideration must be given to the expectations of the Board of Directors as to costs and the related need to raise prices.

If prices are satisfactory, all that will be required are measures to offset inflation. If they are not, and if price increases are part of the solution, improved efficiencies and reduced expenses could be called for by the management; such measures must be specified.

Impact of Change on Volume

Once the desired price levels are established they must be tested against their projected impact on volume. Decisions must be made at this point since they must be in harmony with other profit variables which have not yet been analyzed. The emphasis at this point should be on understanding the elasticity of the market—the company's need price changes. This knowledge is worked into the deliberations when all of the other factors have been fully developed.

"Is There a Quantity Problem?"

Answering this question is much easier than the question preceding pricing. When the pricing problem fits with the requirements of the elasticity of the market, capacity utilization is much more straightforward.

The evidence indicates that profits can be made on any volume of business in printing—there are profitable times at all size levels—provided there is not excess capacity. This means that profits depend on the proper balancing of volume, generated prices, and capacity utilization.

The last application that must be approached is efficiency in kind of capacity depletion. In the fall of 1974, I made a presentation about "Developing a Profit Plan" before the PPA National Compensation Association Annual Meeting in Chicago. I asked the question: "Who knows what his capacity is?" There were about 100 persons present, but not one answered in the affirmative.

Excess capacity is wasted investment—investment on which you cannot realize a return. Excess capacity also means sales exposure—sales are below or representative costs, and almost inevitably generate losses and depreciation. Excess capacity always means incapacity. How can you know how to price if you don't know what your excess capacity is? How can you make prudent purchases of additional equipment if you don't have a foundation that ties relationships between volume and capacity? The answer to both questions is that you can't.

Defining Capacity

Just what is capacity? Capacity means that there are several different types—that is, different levels that have specific implications. The first capacity level is based on definition in absolute capacity—meaning "that which represents full utilization of the capital investment."

A specific answer provides machines or labor oriented. For instance, if press is a machine word, and its capacity is determined by the capital limitations of the press. On the other hand, machine men, designers and binders handle what is almost capacity regardless as related to machines, the investment does not limit their output. The good marketing way, which would be added, increasing capacity, is about equipment increases in capital investment.

The first step in computing absolute capacity is to determine the maximum number of hours that the equipment is available. We suggest a 2000-hour work and a 10-hour day, which means that even given all equipment is available 100 hours per week, the machine man, the scheduling these hours by the operator. The hours rate, and by adjusting these for the current bill. The rates are per the dollar capacity of machine—costs of—general price levels.

The machine cost—could not be specified as capacity without in-

creating the tilted/level context. If such programs were to be spent at capacity, for instance, an appropriate adjustment in capacity would be required. Therefore, the next step is to increase the existing levels of the machine-hour context in proportion to the requirements for supporting the machine-hour context. Again, by extending these levels at TAF rates, and adjusting for the JAF/TAF ratio, we make a capacity determination.

Adding the two capacity figures gives absolute capacity as defined. A first reaction may be that this is a meaningless figure, because it is obviously unachievable, for a number of reasons. First, it becomes a relative-lessly myth, and therefore a useless context for thinking if the more probable it will be.

One of the reasons absolute capacity estimation is unachievable is that it requires a perfect product mix. Since most plants produce to serve a number of separate processes, producing the need for a number of different profit centers, product mix management will be equal estimation of all systems. Yet, different products will use the various contexts in different proportions. Thus, job orders in product line A always is like that they require at one degree relative to other orders.

One of the goals in volume/capacity management is to optimize product mix through marketing efforts and pricing decisions.

Testing Fixed Capacity

Any company normally will have absolute equipment that is gradually being phased out. The current capacity of this equipment will never again be utilized. Yet, could the remaining volume has been extended to other processes or could it has been discontinued, the machine will have to shut its line—increasing all the costs of current capacity.

Similarly, a company that is expanding or adding new processes, normally will have current capacity until it builds volume or complete conversion from the old process.

We do not yet know what level represents a realistic target for absolute capacity estimation, practically. At The William Byrd Firm we have reported before elsewhere that computer-able figure that is based on absolute capacity of 100 million of conversion value added each year, running only about \$1 million a month (just under all process). Since at that level we are running about a 50 percent above initial costs, and since every additional dollar of conversion volume added about 30 cents in profit, the idea of adding 50 million would have

have to double our profits and save our future share in percent. Using this information, we have needed to reduce capacity by reducing capacity commitment all time, and to maintain volume. It appears that a cut to 60 percent utilization of absolute capacity should be a very probable operation.

During future course of the importance of product mix management, and the costs involved with adding new capacity is diminishing current capacity. It is wise to select all pricing and capital investment decisions. Don't expect to make drastic changes immediately. Because without a market strategy structure is working. But, probably the search for ways to utilize the greatest part of capacity and increase profits, is the form of volume or investment.

Managed Capacity

We also think of capacity in terms of managed capacity—in short, which we are especially interested in the knowledge to the management time position of currently employed direct labor, plus overtime hours that are sustainable without creating morale problems. Some consider this as far in percent of straight time.

Managed capacity is compared to absolute capacity, to see how close utilization may be to being prepared to fulfill the investment. It also helps when just within budgeted capacity. Otherwise, the meaning, and the profit plan will not be in harmony. In the case progress, and volume declines from the plan, meaning may be expected to do the same.

If a capacity problem exists management will be faced with a choice between increasing sales efforts or reducing prices as a combination of both to increase volume. The ability to reduce prices directly will be affected by volume price levels.

When it becomes impossible to increase volume at attractive price levels, efforts must be directed toward reducing capacity.

If the plant is already at capacity, the decision for between expanding capacity or increasing prices. Here again the correct level of price is a price consideration.

Volume Analysis

If management fully comprehends the capacity utilization of its plant, it can progressively study its current and projected volume. All volume begins with a customer's need, needs and what we the plant the company is let the customer know that you can fulfill that need. For volume analysis programs, the customer's need also includes

must be translated into dollar terms, be carefully revised and profit figures obtained, and then take leave for the profit center.

Working with current volume is simpler than working with proper-
ties because the information is timely, and that must be done is to
regard the necessary information as it happens. This brings a touch
to the importance of the data base. In the management control
system, which is job has been completed, these documents are
prepared:

- The Job Cost Summary Sheet
- The Invoice
- The Revenue Analysis Report

The job cost summary sheet summarizes the hours worked on the
job, by profit center, and detailed information on all of the material
used. This information has been summarized from time tickets and
material tickets as the work has been performed.

The revenue analysis the revenue billed to the customer for each
product model, as specified in the original quote. Based upon the
prices set by the original quote, this product revenue is then multipli-
plied by the percentage realized.

The revenue analysis sheet picks up the revenue by product, and
compares it to the costs by product as indicated in the job cost sum-
mary sheet.

Building the Market

By properly using the invoice as source of customer, address,
geographic region, product and any other factors affecting the right to
possibility of work—management is able to systematically check as
possible its market. (See page 14.) It is important to recognize that
the whole is the sum of its parts, and that the parts possess a number
of characteristics vital to an understanding of the market. Manage-
ment must ask the questions, "Who has a certain customer or a cer-
tain product group doing business with me?" "How profitable has it
been?" and, most important, "What can be learned from the business
relationships, and on what scale?" and "What can we do to make the
business more profitable, or to make us more attractive to this and
similar customers?"

We are again talking about the direction of the data base. In the
customer planning stage, the manager must actually identify those
customers whose behavior he thinks best describes what it is—and
why he got it.

Projecting Volume—The Booking

As you point to lines, a pointer has a firm booking of orders in the books. Obviously the finger that measures booking relative to capacity. The main attraction it is—provided that it does not exceed the plant's ability to deliver within promised schedules. Capacity must be taken in good against an external condition that will result in a finished market negotiation.

One of the interesting aspects of most pricing lines is that a large percentage of them features a repeat business—the ratio or similar pattern coming from the same customer, who usually account for a high percentage of total volume. This form is hidden booking.

Consider the typical commercial printer serving a major manufacturing customer's advertising requirements. The manufacturer must continue to produce his products and, if successful, he will tend to maintain past patterns. He knows advertising budget, which includes printing expenditures. If you know that a good job is the past, you can reasonably assume that you will continue to get more orders of his business. That is not unique—but in most cases it is likely.

In the same way, a book publisher will have to continue to publish to stay in business—and will continue to need suppliers to print his books. Most such customers recognize the importance of customer loyalty, particularly if reliable suppliers continue to be competitive and provide a good product.

Industrial printers have no such direct predictability, demand of orders. But just because the product is not industrial doesn't mean that there will not be a predictable repeat demand to provide hidden booking.

Measuring the Booking

All the many different ways to manage or measure the booking, all have one common goal—to provide management with useful picture of the volume it can count on in a given time frame compared to available capacity. The amount of actual capacity must be identified for enough in advance of production time to permit effective scheduling action to fill the available space.

The call for booking management is one of the volume/capacity relationship of each's good order. Only with this information can the identification of product mix problems lead to corrective action.

Management of a printing plant cannot afford time in security. It does not want to overfill, because a customer is likely to be known

will, at best, be disappointed if you can't deliver, meaning that industrial businesses have more to offer to business. But, I must also quote responsibility for selling would lose. The initiative for filling the time must come from the sales force, which must find products and resources to deliver that time. If they take money that which is not in money, without regard for whether or product can, there are nothing but order-takers.

In our described leading management system, we suggest, that, purchasing the leading of industrial business for the last 12 months, to the work for each day means that information begins with a knowledge of customer requirements.

Next we constructed the "open order" file, which establishes all open orders—positive and non-positive, carried every day, the work for 100 days for the last system.

The third technique is the production scheduling system which goes out on work, by the day for all orders.

These three techniques give current information at all times on the leading, and form the foundation for the value-forming effort.

Projecting New Business

If an accurate leading record is maintained, projecting volume means projecting change—new business, whether the form of growth increasing jobs, new business from existing or new markets, or lower work. The total of change is added to the leading total to provide projected volume.

The growth—or the shrinkage—of existing jobs is beyond the control of business, but the business of purchasing change, and as I understand that, they cannot cause of trouble.

Under a process of a fully leading, or using a controlled reputation with work competition, every little new business is going to just happen. There must be sales effort. This means that projecting new business is directly related to the sales plan of the individual salesman.

Projecting new business, it follows, requires that each salesman establish the prospects he intends to develop during the coming year, and the chances that he expects for during business. Many salesmen will talk at this, when they don't like to plan, or are afraid to commit themselves to goals. But it is essential that each salesman discipline himself to go through the planning effort. Under this plan, the salesman must develop prospects that if cannot fill, or be recognized for volume that it has not created yet.

Optimizing

Another key ingredient to the volume/capacity management effort must be a good scheduling system, a national means of keeping a record of commitments to customers, and having them re-equipped in an orderly way in order to enhance efficiencies and customer service.

Unbalanced capacity requirements smooth flow of work through all of the various processes. As new jobs are being completed one is placed in equipment, another job must be moving toward it, or there will be no greater idle time.

Much of this is accomplished through good shop floor control—a function called the "balancing of equipment"—which keeps management informed about the current status of all jobs and equipment.

In summary, volume production is the product of complete control of existing volume in dollars by product and process. This information is related to the output of the business—geographic market, customer and volume. Knowledge of the output—the circumstances and the inside—provides an enhanced evaluation of future prospects.

The dollar volume must be projected to know its process, and its units of material pounds of paper, for example. This knowledge of current volume is then modified for changes—the known, the probable and the desired.

Known changes are the definite loss of existing work on the side of new work, including, perhaps, changes in the nature specifications of existing work. Probable changes are less certain, but reflect known market behavior, or changes in prices. Chance changes are the occurrence of specific take orders, such as the addition of a new customer, the opening of a new take office or the addition of a new process opening a new product line.

The results—a projected volume in dollars and hours by process—can be compared to existing levels and capacity. If the relationship is satisfactory, it becomes the basis for the Profit Plan. If unsatisfactory, the planning team is required to work out the problems.

Efficiency Levels

The importance of efficiency never has been fully appreciated by the printing industry. This importance is based on the fact that many printing companies do a very poor job of establishing standards for efficient performance and of measuring actual performance levels.

It's true, numerous a number of managers who feel that under-

should that efficiency is one-half of the past levels, which is the combination of the lower rate and the output per hour.

One part of the profit planning effort is to evaluate current efficiency levels. If there are satisfactory satisfactions, there is nothing to be prepared as being unsatisfactory. If there are problems, the plan should reflect efforts to achieve satisfactory levels and the results that might be expected from these efforts.

In so, we where most problems are frequently adding new technology, there is another dimension to the task of planning: the introduction of new equipment, as if changed methods or procedures that could improve efficiency. Management must project the impact of increased efficiency on expenses, and decide whether or not to reflect the change in price levels.

The efficiency measures to derive from the production performance records that should be maintained daily on the basis of the plan. These records should be accumulated in actual patterns and trends to predict in real time. It should be remembered that where we talk about efficiency, we include materials—paper, ink, plates, film, etc.—as well as labor.

Expense Budget

There are two "tricks" in developing an accurate expense budget. The first is a knowledge of the items that have about which volume and costs. If the price level's expenses have been previously and completely determined, the manager will be able to know what has been expected, and why, and if there is a justification for his projections. The second is that expenses must be in harmony with volume. In a burst of optimism, the sales manager might project significantly increased volume. Although it would be possible to commit to increased expenses based upon such optimistic goals, one should have the receipts available to handle the demand if it is not satisfactorily profitable. But you certainly should want to know roughly in terms of past projections if you can help it.

Therefore, the basic the expense projections must be realistic volume projections in terms of sales in unit production. Given this information, one must work the projected budget (see fig. 10-1). The long-term budget and volume is assigned two profit ratios, and the number of changeable items available from the meaning of the ratios is computed and extended to the future. The ratio. The items and dollars are compared to the volume projections to identify problem areas.

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Inevitably, the first time through, there will be some of those personal overall revenue miscalculating. Therefore to be worked out soon by man.

Start the meaning in personal budget and the volume projections series business, it is a fairly mechanical process to project the balance of the spending-expenditure. These fall into several categories. The first are the 30,000 expenses—supplies, repairs, postage, etc., that vary with volume and must be computed mathematically. The second is variable expenses, adjusted for projected changes in volume. The third group are the direct overhead expenses, including depreciation, property taxes, and insurance, that can be computed for each center, and would be provided if the center were eliminated. The final group comprises the general overhead—manufacturing, administrative and other that are developed separately and must be apportioned for each of the overhead centers.

All of these expenses constitute the overhead expense budget which will be used to compute fixed rates.

In addition, the profit plan must include fixed factor additions—materials, paper, tools, time, phone, etc.—that are traced directly to jobs, and must be laid up job by job or by product line. The plan also should include interest expense and other capital income (dividends earned, for instance) and deductions (such as income withheld).

This expense budget must be presented to management in a comprehensive form that permits each manager to know exactly what he is authorized to spend, based upon specific volume assumptions.

After volume in dollars, hours, and expenses have been projected, the next step is to develop profit center hour rates, as discussed in Chapter 17.

The Capital Budget

The Capital Budget reflects the decisions made by management to invest funds in new equipment. Administering it is a critical part of the profit plan and should not be approached superficially and haphazardly.

Capital investment decisions are not made very often, but they have the company into courses of action for an extended period of time—on statements of a few years and often longer. There are three strategic considerations in this decision:

1. Is consistent with the marketing strategy and direction of the company? (See Chapter 11)

How does it affect the volume/capacity relationship?

What will be the relations between them, and is it adequate coverage of the main workload, the company's overall revenue goals, and other possible investments?

Even when an investment meets all of these criteria, management must still decide how it will be financed.

A capital investment always will fall into one of three categories:

A replacement for worn out equipment. Management has few options with this type of investment, since failure to replace means eventually going out of business or at least operating inefficiently and under the constant threat of bankruptcy.

Improvement in technology and/or efficiency. In this period of rapid technological change, most new equipment offers substantial efficiency improvements, both the equipment becomes increasingly obsolete long before it actually wears out. It is important that a company maintain a constant and competitive plant. Technological changes give management a wide range of options, both in terms of what to buy, and when to buy it. These decisions are quite suitable for formal revenue cost investment analysis.

Expansion. When the volume/capacity relationship has been improved, a company is faced with increasing capacity. With a constant size plant opportunities to trade up in terms of technology and efficiency. It is this type of investment decision that is most appropriate for the use of B/C analysis.

Research and Development. In our industry, the manufacturers of equipment historically have been the main source of research and development. But, with the technology changes in technology, many of the most promising new processes require substantial effort to adapt to a particular operation or to doing "basic" investment decisions do not provide an immediate return on investment, and cannot therefore be justified in the short run on that basis. However, they can be justified if the company is long-term development efforts.

Preparing Financial Statements

The next step in the profit planning process is the preparation of projected financial statements. CFO's will discuss the form of such financial statements in depth in Chapter 10. At this point, we will have

conclude both its identification and significance in the profit planning process.

There are three statements:

The Income Statement

The Balance Sheet

The Cash Flow Statement

The income statement presents the dollar value of sales, the dollar value of expenses, and the resulting profit. If the proposed plan is unsatisfactory, the plan must be discarded or at least the problem areas therein are identifiable but if the plan is properly constructed departures are by definition.

The balance sheet summarizes the financial position in which you live and operate. The need for assets is created by the nature of the business, the assets on which you operate, and the nature of your capital investment decisions. The liability and/or equity side reflects the cumulative profitability of the company, as well as the manner in which you have decided to finance the assets.

Expanding the balance sheet gives emphasis on the changes in the asset requirements, and shows how such changes will affect the capital structure. A decrease in assets will release funds, an increase will require funds.

The cash flow statement ties together the other two statements in terms of their impact on the cash position. A company with a good cash flow will encounter few short-term problems in the setting of capital structure needs. However, a negative cash flow situation, and usually quite quickly, will create very difficult problems.

Finalizing Tests

Answers to the proposed statements should be checked by three main points:

Is the profit level satisfactory?

Is the capital structure sound?

Is the cash flow positive?

If the answer to any of these questions is negative, management must recognize that it has a problem, and must move to identify it, and correct it if the profit plan is to succeed.

The 1967-1968

One of the critical considerations in developing and managing a profit plan is to understand the self-correcting nature where there is a good possibility for error or deviation.

Lower plan is homogeneous and assumptions will be that cost will be stable or almost constant. Managers made of these have a predictable change of cost with least to be anticipated. Therefore, long-term plan should be based on which a profit plan may change—higher or lower volume. If the plan has been well constructed all the other elements of profit should be reasonably predictable. If, however, the volume forecast is way off the mark, the other elements, particularly those requiring lead time to manage, such as fixed expenses and capacity levels, can get quickly out of future relation to volume.

Lower volume will result in lower profits and, consequently, lower cash flow, unless expenses can be reduced. This will be offset by a decrease in the need for working capital and may require a modification in the capital budget.

Higher volume at proper price levels should result in higher profits and cash flow, but also will require a greater need for working capital and capital investment.

It follows, then, that management should be familiar with the effect of changes in projected volume on the elements of profit and the need for funds. It should also have some lead for the likelihood of such changes, and have appropriate contingency plans made.

Management by Objectives and Other Operating Plans

A strictly financial approach to profit planning will not produce the long-range results. A profit plan is based on many operating assumptions which must be tested later, mainly by the other major operating programs. Consequently, each manager plays an important role in constructing the profit plan, each must understand that role, in not only financial terms but in how he must do his job—how he is budgeting, spending his time and coordinate his efforts.

The Management by Objectives program discussed in Chapter 14 focuses on integral part of the profit plan in that it coordinates each manager's role, and helps integrate it into the total management effort. day-after operating plan, such as marketing efforts, advertising programs, employee relations, safety programs, etc., become part of the implementation of the profit plan and should be integrated with it.

Presenting the Plan

If the plan has been built from the bottom up, there should be a good understanding of it at the grass roots level of management. The

increase this understanding and build confidence, we have found it helpful to have a formal meeting—taking a month or so before we implement the action plan—to discuss management issues in this way. Each manager not only understands his personal role, but also sees the big picture—covering the company's needs, goals, as well as strengths. This first is part of the effort because there are no secrets.

The general meeting is followed by a series of smaller meetings in which the departmental plans are discussed in even greater detail.

FOLLOW-UP AND FEEDBACK

For an Annual Profit Plan to have its maximum impact, there must be continuous follow-up of progress and feedback of performance.

We suggest a monthly review, which we call a Profit Review Meeting, in which operations of the entire company for the previous month are discussed in terms of the Profit Plan and the profit variables show how they fit the Profit Plan.

The general meeting is preceded by small departmental meetings that include business discussion, specific goals to reach next.

Finally, we recommend that the Management by Objectives program be formally audited for each participating manager at least once a quarter; progress on particularly important or difficult projects may need monitoring even more frequently.

CONCLUSION

The Annual Profit Plan lies at the core of the management control system, setting goals and detailing plans to achieve them. Although it should include a financial budget, it must be much more comprehensive regarding plans for the year.

The perspective of the plan should be from the bottom of the organization up. It requires a thorough understanding of the data base—the current situation and how it has come to be.

The plan itself deals with the four legs of the Profit Plan—beginning with Planning and Acting, and progressing through Efficiency and Expenses.

These four components of profit are converted into profit center base rates.

Finally, the plan is summarized in financial statements, and presented to the management group.

Adopting of the plan and producing feedback to the participants is a continuing part of the planning concept.

THE HOUR RATE

Applying Unit Costing

Most well-managed companies find that unit cost information is not only helpful but absolutely essential to properly run their business. Except in the simplest operations, where such data can be obtained by means of a simple system, unit costs are required to value inventories and the cost of goods sold in order to determine profit for each accounting period. Even when management does not follow this information closely, the Internal Revenue Service forces the requirement.

It is most important to the use of unit cost information in making pricing decisions.

DEFINITIONS: PRICING AND UNIT COSTS

The unit costing method is essential for developing precise pricing capabilities, as suggested in these elements. The first is the identification of direct costs—those which can be directly allocated each unit of volume. The second is the allocation of the indirect or common costs, which are allocated on a rational and fair basis to the units. The third is the determination of the volume levels to be used in the spreading of overheads to the units.

Direct Costing, when properly applied, is the most accurate method of cost determination and should be utilized whenever possible. Indirect cost allocation is a rough, relatively accurate method of allocating, and even allocation of costs that cannot be distributed directly is necessary. Cost allocation must contain an element of compromise—between reasonable accuracy and practicality.

Even when costs have been accurately accumulated the allocation

either may show if good judgment does not prevail in the selection of the volume has to be used in converting total costs to unit costs.

Estimating the importance of understanding the cost/prior-volume relationship, discussed in detail earlier, this decision is not strictly a statistical accounting problem but one that requires an intuitive understanding of the market, and the economics of various volume and price levels.

Applying unit costing to pricing is no simple task. With no single well-defined product line, the printer must handle a number of different jobs at one and the same time, each comprising different proportions of material and labor, produced by somewhat-different processes. A great many of his costs are overhead that cannot be directly related to products.

The art of this chapter is filled with the techniques developed to cope with the complexity of unit costing in the printing industry.

Previous Editions

In this very complex problem, there is more than one possible solution, and no perfect one. Every possibility represents a compromise between the two kinds of simplicity and accuracy.

Covering the subject to depth some years ago, two books entitled *Cost Accounting With Machines That Count*, by James Tucker stated "... that the more varied formulae required for each differing condition in efforts to produce proper share of overhead expenses.... Unfortunately, the use of the single method does not find unity if there is more than one method applied with fullness of all relevant working parts." He went on to say that different methods are almost "worse than no cost information, because they are mislead as to managing management."

Some of the classical methods used in printing include:

Prime Cost Method—Since (as stated) each unit of material or labor are determined, and overhead is added as a percent, which is normally distributed to the ratio of overhead to prime cost for a given accounting period. The advantage: simplicity. The drawback: high an inaccurate economic relationship between overhead and prime costs. There are at least three other methods that are variations of Prime Costing:

The Average Cost Method—This paper is marked up for an arbitrary multiple. If the paper cost, say, \$1000 the printer might mark up 1% more, to \$1010. This method is so obviously inaccurate that it

has been paid by very few printers, and that only by the smallest and most unimportant; that, unfortunately, it has been used.

The Direct Labor Dollar Method.—The principle is the same as the *Minimum Cost Method*, except that the cost of direct labor is used as the basis for the markup. For instance, if the percentage is paid 50 per cent. less, and the printer has been doing the job at a loss, the markup is on another's markup, such as two times the labor cost or 100 per cent is added to 50%.

A variation of the *Direct Labor Dollar method*, the *Direct Labor Hour method* will give the same result as the dollar method when the hourly rate paid all direct labor employees is the same. When it is not, the method will allocate the same overhead percentage to different types of work as the cost of the hour.

Cost of Product Method.—In this method the materials purchased divided by the number of units produced (it requires defining a unit, which is the printing industry's method) gives, per sheet or page, its material cost as the direct cost (profitability).

Using either of these methods to handle the costing problem is a printing plant.

The Technique for Pricing

The specific solution to the cost-costing problem for the printing industry involves dividing costs into two groups:

- (1) **Direct Costs**—Materials (P.M.A.)
- (2) **Conversion Costs**.

Direct

The *Direct* are the materials and outside purchases that can be directly related to individual jobs—including paper, ink, film, plates and outside purchases of subcontracted work.

Because *Direct* is covered "by job," they can directly related to each job and require no arbitrary allocations. They require no complex allocation formulae and administrative expenses, some of which can be directly related to the material and some which must be allocated.

Conversion Costs

Conversion costs, representing another problem, are not incurred to "pay" the job. They are paid by the overall customer by the unit, payable by the work, and include buying, supplying irregularly as needed. All of these costs must be assigned to the same dimension so that they may be imposed on each "job."

Indirect

The generally accepted common characteristic is applied to a job, expressed in hours. In profit centers all jobs spend time called *chargeable time*, which means that it can be directly related to the production of a specified "job." In theory, therefore chargeable time is billable time.

The use of time as the unit of volume has led to a pricing system known as "The Standard Hour Rate." This means giving a rate for each chargeable hour and then relating the hours directly to the job rate (or perhaps the cost of a job. (Figure 27-1.)

Hour rates, while providing the ability to apply direct cost rates, give accurate jobs, transfer the problem of identifying the direct costs of each profit center and allocating the remaining overhead costs to the profit centers in order that hour rates for each profit center can be prepared.

THE "STANDARD" HOUR RATE

Here is a version of most forecasting and standardized price direct hour rates. Every one here is based on standards—for instance, $1 + 1 = 2$, with no 1/2, 2/3, or 1/4, and it is not requiring that there is a direct relationship to hour rates or standards. It should be clear,

ACTIVITY	COST	JOB
Machine A		
Hours worked on Job A (hr/job for A) ×	Job Cost	
		+
Hours worked on Job A (hr/job for A) ×	Job Cost	
		+
Hours worked on Job A (hr/job for A) ×	Job Cost	
		+
	== Total Job ACTIVITY COST	
	+ DIRECT OVERHEAD COSTS	
	== TOTAL JOB COST	

Fig. 27-1. Forecasting or Hour Rates to Job Costs

many of our decisions would be as much simpler. But, it cannot be done.

The basic rate is a "rational" figure, not an absolute one; it is valid only within the context of the assumptions made in computing it. It requires basic materials of cost that fluctuates as volume assumptions change; the base rate also changes. Therefore, our manager using an base rate in his decision making deliberations must first be told the stated value. He must understand how the rate was computed and apply it within its intended context and make logical adjustments to reflect the context of his particular problem.

Types of Base Rates

All base rates are based on the following formula:

$$\frac{(\text{Fixed Expenses} + \text{Budgeted Overhead})}{\text{Base Rate}} = \text{Base Rate} \\ \text{Volume/Number of Units}$$

The distinction between various types of base rates relies on the treatment of the values of the variables. Four types of base rates are used in the management control system we are describing:

- The Actual Rate
- The Standard Rate
- The Budgeted Rate
- The Fair Rate

Actual Rate

Remembering the actual base rate is a rational's way process. Because this is an historic rate, the base can be established. The only judgment that must be exercised is the mechanical adjustment used to distribute the overhead to the units that profit system.

The first operational problem with the actual base rate is that it is a result of the simultaneous conditions change rates and volume during the period. The rate is relatively low that conditions contributing only affect base-rate costs, not what they should be. The result is that actual rate may or may not be valuable in the marketplace.

A further weakness is that no basic rate does not reflect the current and future conditions with which management must cope. Therefore's base rate cannot be used to set today's prices, since it has happened in. There may be a quality, but only when entirely unexpected.

Historic rates that are computed for short periods, such as a month or quarter, have still another weakness: the variables that form rates a rate base, and the change, with the biggest variable usually volume.

The rate can be distorted by unusually high or low values; particularly over periods as short as a month or quarter.

Standard Rate

In response to the wide fluctuations in actual hour rates, the accounting profession many years ago developed the principle of the *Standard Hour Rate*, based upon an average level of expenses and volume.

The work performed during the period is valued at the *standard hour rate* (apart from the work in process inventory). When the job is shipped out, the inventory is revalued at the lower value than the standard rate. This value becomes the cost of value charged against the shipmate for the period.

The use of a standard hour rate involves the concept of *absorption and surpluses* (Figure 11.1) of the volume of business not sufficient to absorb the actual expenses during the period, there will be an *unfavorable variance* that must be reported. This may result from the volume of work or market selling the standard is volume realized, or from those expenses that is the standard (absorption cost), or a combination of the two.

If the volume is greater than that used in the standard, and therefore, price is less, there will be an *overabsorption*, creating *favorable variance*.

Actual Expense (100%)	Standard Rate (100%)	Actual Expense (100%)
100,000	100,000	100,000
100,000	100,000	100,000
Unfavorable Variance		
Actual Rate - Standard Rate = Unfavorable Rate		
(100% - 100%) = 0%		
Favorable Variance		
Actual Expense - Standard Expense (Actual Rate - Standard Rate)		
(100,000 - 100,000) = 0%		

Figure 11.1 Variance Analysis

Standard Budgeted Hour Rate

The use of the *Standard Budgeted Hour Rate* is a further adjustment on the *Standard Rate* concept. It is designed to measure the portion of the business nature of the actual hour.

There is proposed here a "table" of one's ability "projected expenses" divided by "projected volume" (income). Again, however, prices and volume (income) are not static, the rate has, therefore, a "ability" such as the level of "projected expenses" and "projected volume" implied in the phrase "budgeted lower rate" is the belief that the price-performance is the company can not reasonably, attainable and, in the best of one's ability, reflect what actually will be. The budgeted lower rate may or may not be suitable in the "open marketplace."

Standard For Rate

This is also a projected rate, that is, knowing the budgeted rate (cost) with what expenses and volume will be, the firm then deals with what they should be. A firm then can be thought of as operating at that it is attainable by proper expense controls and proper volume (revenue) their selecting adequate utilization of the given size cost.

A Fair Rate may further be defined as a fully documented, engineered rate attainable in a properly managed environment. It is important that we not confuse a Fair Rate with an "ideal" rate which, naturally, reflects an investment in terms of a pricing plan to work, while most desirable, is is rarely attainable. Unreasonably, selling prices derived from such a rate would be commercially low.

In essence, a Fair Rate is one composed of high or low expenses, judged of cost or cost-substitution, and projecting, revised conditions as they should be without resorting to "an absolute optimum circumstances." Theoretically, a Fair Rate should be suitable in the open marketplace, because it represents the cost of production. When selling prices in the marketplace are below, these rates, company losses; selling prices, affect budgeting in the program. The cost factor, in the short run, in the long run, the price factors will not be profitable enough to stay in business.

If the company can obtain selling prices, in the marketplace above the sales, it may have some unique advantage. In efficiency, such selling, or losses, that such an advantage probably will not last in the long run, because competition eventually will find a way to overcome it.

Obviously, where there is a shortage of capacity, the favorable supply demand situation may permit the whole industry to obtain prices above the level indicated by fair rates.

Representing the Line of Various Price Factors

While the parameter of four types of lower rates may be confusing, their application is relatively simple.

The Actual Rates are computed as a matter of historic diagnosis; their comparison to budgeted rates and the Rates to identify problem areas.

The Standard Rate is simply an average rate, used to indicate that the unit have normal budgets.

The budgeted Rates and the Per Hour variations of the standard rate that encompasses the cost of the maintenance of complete savings. The Budgeted Rate introduces projected conditions, and the Per Hour reflects the impact of ideal conditions.

Per Hour vs. Budgeted Rate

You may ask, "Why aren't the per rate and the budgeted rate always the same?" Ideally they are, but there are some circumstances in which there must vary.

The Per Hour Rate looks at replacement independently, regardless product use. But, in a multi-product plant, it is impossible to use all systems equally. The budgeted Per Hour Rate must address itself to the effect of product mix in the utilization of equipment and, hence, on the lower rates of the equipment.

The Budgeted Hour Rate reflects actual depreciation expense. The Per Hour Rate should reflect depreciation based on the current value of the equipment—the replacement value.

Remember, in our system the Hour Rate does not set the selling price. The selling price is set in the marketplace environment. We suggest that it begins with the Budgeted Hour Rate, and be modified for market influences, taking into consideration the relationship between the Per Rate and the Budgeted Rate. For instance, assume the Budgeted Hour Rate is \$100 per hour and the Per Hour Rate is \$120. Management is fortunate an opportunity to bid on a large job that exceeds budgeted volume, getting the job will lower the lower rate. The lower bids of the Per Rate, and the impact of the additional volume will prompt management to make an intelligent pricing decision.

While the Budgeted Rate normally will be equal or above the Per Rate, in instances where a facility is being heavily utilized, and has been largely depreciated, the Budgeted Rate might be below the Per Rate.

In summary, the Budgeted Rate is the financial rate used for all selling and statement purposes. The Per Rate is a management rate, be incorporated primarily in the pricing decisions. If it is above the Budget Rate, it will encourage management to set selling prices above what the books reflected in the budget. If it is below, it indicates the possible need to sell below the level of the Budgeted Rate.

THE NEW RATE PROPOSAL

We suggest that the proposed rate level for itself is overestimating the fixed costs.

The LUMP (L) or Payoff Rate

Since LUMP represents, by definition, costs with volume, this rate should remain constant, regardless of volume levels. Failure to maintain a constant rate will indicate a change in efficiency of labor utilization. An increased rate then results from higher labor costs, lower volumes with no additional volume costs, or a decrease in the chargeable (non-chargable) hour-rate. The LUMP represents how failed to rise with volume.

The chargeable/non-chargeable ratio is particularly important. It measures the number of billable labor hours required to support direct labor hours. As the non-chargeable hours increase in proportion to chargeable hours, the LUMP rate will increase proportionately.

Just as it does the consistency of the LUMP rate measures the relative efficiency of the utilization of the labor dollar. Just as represents the base below which no company can afford to sell. The difference between the selling price and the LUMP represents a critical measurement to managers and people. (See chapter 14, the contribution margin.) The basic pricing decision involves how much contribution is needed from each sales dollar—the higher the amount relative to overheads, the less the cost volume required to cover them.

Manufacturing Over

This is the LUMP rate plus manufacturing overheads used simply for selling inventory and cost of sales. Ideally, we would generalize, pertaining to sales incentives of LUMP rates, while considering all overheads as period costs, because this would more nearly reflect the actual economics of operations better. However, the FEA requires that manufacturing overheads be included in inventory valuations, and we use this rate to avoid keeping that sort of books.

All-Income Rate

This rate represents the full cost of a profit center for an hour. Expense includes all allocated overheads; it is strongly labor-weighted volume. It gives one level a solid rule for the single contribution of expense levels and volume used to compute it. That may or may not be the most optimum level—hence the importance of the fact that this change.

even when it's thought to that the all-inclusive Rule is meaningless, and to function the premise that there is no such thing as individual jobs, goals, because there is no profit and total contribution costs is overlooked, and there all contribution is profit. This is in fact true; that, within its limitations, this rule does serve the purpose of indicating the Rule does objectively the usefulness and job. Unless a figure like this is used, it is fairly difficult to relate the other side to P&P and profit selling prices, because there is a tendency to think of the difference between them and the selling price as profit...not as contribution.

Figure Selling Rule (P&P) Rule

We discussed this rule in detail in Chapter 12, but it is worth pointing out again that it represents the all-inclusive Rule plus the cost of capital. It is, essentially, a financial statement—it does not set the selling price.

CONSTRUCTING THE WORK CENTER

A *work center* is applicable to the profit center—the smallest element of the organization. Each center must have its own base rate based upon the facts and circumstances prevailing in it. (Figure 17-1.)

Profit centers are established within the corporate organizational chart. The logical starting point for the development of base rates is the definition of a profit center. There are two basic criteria for establishing separate profit centers:

1. Different products/services
2. Different equipment used/size
3. Different area of responsibility
4. Different operational goals
5. Significant differences in investment

Reestablished profit centers, the second step is setting at least one base rate and/or understand the Corporate Chart of the center, which includes and liability accounts related to the balance sheet and income and expense account related to the profit and loss statement. Identification chart of accounts should be used and developed as much as was an important logical grouping of similar expenses to the business and behavior patterns, expected to permit meaningful cost setting of various cost elements, and used to permit identification of items for effective management control. The shared account means the question: "What was produced?" The organizational chart is

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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[illegible][illegible]




Abstract

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[illegible]

(continued)

[illegible]

40. **Inventory items**
 41. **Inventory items: General ledger**
 42. **Inventory items: Detail ledger**
 43. **Inventory items: Inventory ledger**
 44. **Inventory items: Inventory ledger**

Inventory items: Inventory ledger

45. **Inventory items: Inventory ledger**
 46. **Inventory items: Inventory ledger**
 47. **Inventory items: Inventory ledger**
 48. **Inventory items: Inventory ledger**
 49. **Inventory items: Inventory ledger**

50. **Inventory items: Inventory ledger**
 51. **Inventory items: Inventory ledger**
 52. **Inventory items: Inventory ledger**

Inventory items: Inventory ledger

53. **Inventory items: Inventory ledger**
 54. **Inventory items: Inventory ledger**
 55. **Inventory items: Inventory ledger**
 56. **Inventory items: Inventory ledger**

Inventory items: Inventory ledger

57. **Inventory items: Inventory ledger**
 58. **Inventory items: Inventory ledger**
 59. **Inventory items: Inventory ledger**

60. **Inventory items: Inventory ledger**
 61. **Inventory items: Inventory ledger**

poses the question: "For what was it purchased?" (See Chapter 11, *Building the Plant Model*.)

Allocation Problems

When costs cannot be directly related to a profit center, we must resort to some method of allocation. An intelligent approach begins with a thorough understanding of the nature of each overhead expense. It requires a search for some common denominator to reflect the relationship between the occurrence of the expense and the benefits derived thereby by each profit center.

The common denominator may then be used to allocate the overhead expense and then charge each center on the basis of benefits received. In some cases, there will be no absolutely accurate allocation method. The solution, as indicated at the beginning of this chapter, must contain an element of compromise between reasonable accuracy and practical application.

While there may be no right way to allocate it is important to avoid the temptation to get more solutions than can be properly said to be leading.

Each such solution may include: 1) arbitrary assignment of all overhead cost basis on the use of a flat percentage for each assignment; 2) assignment of overhead to the most profitable center or product, leaving others to bear greater proportion loss of their costs; or 3) assignment of overhead on a flat basis by simply dividing the total cost by the number of jobs produced to arrive at a per job overhead cost.

All of these methods appear to defeat the whole philosophy of equitable distribution based on benefits received.

Paramounted Mapping of Department Expenses

A. EXP Expenses

1. *Plant Order Direct Labor*—these costs are charged directly to each center based on the time spent there, as represented by the punch. The time card. Within this category expenses include the air time cost is charged to the employee's home base center. Premium time is charged directly to the work function where the premium time was worked.

2. *Department Indirect Labor*—these costs are charged directly to the departments. Within each, they are allocated to each profit

center on the basis of chargeable hours, because indirect labor normally is related to activity.

4. **Departmental Supervision**—these costs are charged directly to the departments, based on time spent. Within each department they are allocated to the profit centers on the basis of payroll hours, since department control is personnel-related.

5. **Departmental fringe benefits**—these costs follow the payroll dollars based on the percentage of departmental fringe to departmental payroll.

6. **Fixed Costs Directly Applicable to Expenses**—these costs are chargeable directly to each profit center because the cost and benefit are linked.

The following items describe special situations:

a. **Power**—the horsepower in each profit center is measured in kilowatt hours, then charged directly to each center on the basis of chargeable running hours.

b. **Unfinished Inventory**—costs and credits are recorded—the cost of these items is charged directly to the profit center that creates, or is chargeable but, the credit, with charges are stated at value of production at manufacturing cost plus direct-order shipping at cost. It is important to distinguish these costs from "planned or standard overages," which is job related and built into indirect.

c. **Non-Departmental Expense to Maintenance**—these costs are charged directly to the profit center incurring the expenditure.

7. **Departmental Supplies to Departments**—these items are charged directly to the departments, then are allocated to the profit centers, within the department on the basis of chargeable hours, because such expenses are related to activity. In this group we have listed all "M&M" expenses—materials related to an direct installable expense, because the supplies are charged direct based directly on the production volume in volume cost that long run.

B. Direct Overhead

1. **Direct Fixed Costs**—these are fixed costs charged directly to each center, including the following:

a. **Inventory Cost**—this is inventory costs protect the investment in the profit center. It is related to by establishing inventory value monthly, the inventory cost rate is calculated based that this is inventory cost to cover only the center's inventory and does not include any other general inventory cost.

(b) There-often are machines and equipment used at any office controlled by a local governmental agency based on the value of the asset in the profit center. They are valued as by using the straight-line method by the tax law. These costs are applicable to the center's maintenance only and do not include any other general costs.

(c) Depreciation: this is the depreciation on the investment in the profit center. It is usually chargeable to the center and that cost is not any depreciation of other company assets.

(d) There-then other expenditures are incurred to maintain the profit center are termed maintenance costs. If there is a real cost in the center, it usually will be in form of depreciation.

2. Departmental Fixed Costs—these include insurance, taxes, depreciation and rent on assets charged to a department and used by more than one profit center in the department. These costs are then the same type of expenditures found above, only there are not a departmental instead of a profit-center basis. Such expenditures are allocated to each profit center within the department on the basis of chargeable basis, since these costs are actually related.

In upholding of this policy, we agree at the profit center-level that these are common and unrelated, but the predominant position is chargeable directly to the profit center incurring the expense and receiving the benefit, there is only a limited allocation of departmental expense at this point. There is no allocation of general overhead being avoided or general expense avoided.

(c) General Manufacturing Overhead

These include departments serving all production facilities and should be allocated to each production department, and to each profit center within the department on a chargeable basis relating to activities involved. Manufacturing overhead at this point then is comprised of the following items:

1. Manufacturing Administration—this department includes employment, labor related activities directed by the general management level, who spend their time in plant management and administration. The department includes such people as a vice president in charge of manufacturing, general plant manager, and general administration.

All of the costs in this department are allocated on a chargeable basis on the basis of general basis. Because general plant management and personnel activities structurally is people-related, allocations are based on general basis appears to be the most reasonable way of treating these costs.

Sample Allocation:**Manufacturing Administrative Expenses \$25,000**

Allocated to Department	Direct Hours	% of Total	Allocated Expense
Basic Control	1000	10%	\$2,500
Basic Material	1000	10%	\$2,500
Basic Product	1000	10%	\$2,500
	3000	30%	\$7,500
	2000	20%	\$5,000
	2000	20%	\$5,000
	2000	20%	\$5,000
	8000	80%	\$20,000

f. **General Factory**—this is a shared department which employs and utilizes costs directly involved in the day-to-day operation of the manufacturing facility. It includes such functions as production planning, scheduling, and purchasing. Each of these functions serves the different departments in different proportions, with the first step in allocation being to assign these various costs department on the basis of time spent in each department. Once this is done, the amount appropriate for each department is allocated to the plant centers that the department is the basis of chargeable hours valued at the CMH rate level. The hours charged relate to the day-to-day operations of the plant, in terms of activity and complexity of operations. Value of production at CMH rate depicts the volume and complexity of day-to-day activities.

Sample Allocation:**General Factory Expense \$100,000**

	Chargeable Hours	CMH Rate	Value of Production at CMH Rate	% of Total	Allocated Expense
Basic Material	1000	\$5.00	\$5,000	5%	\$5,000
Basic Control	1000	\$5.00	\$5,000	5%	\$5,000
Basic Product	1000	\$5.00	\$5,000	5%	\$5,000
	3000		\$15,000	15%	\$15,000
	2000		\$10,000	10%	\$10,000
	2000		\$10,000	10%	\$10,000
	2000		\$10,000	10%	\$10,000
	8000		\$40,000	40%	\$40,000

g. **Quality Control**—this includes employees and their subordinates that are directly involved in testing of production for quality control purposes. The primary allocation will be towards department based on time spent in the department. Once this assignment is made, the

general service department is allocated either profit centers within the department, on the basis of chargeable hours at the 100% rate level. Since the long run, quality control will be involved in all production profit centers within a given department and probably will spend its time in each profit center, based on volume and complexity of operations. Thus, value of production at the 100% rate appears the most reasonable method of allocating these costs.

4. Industrial Engineering—this department includes employees and their related costs charged with the responsibility of setting and monitoring engineered standards. The primary distribution of this overhead department should be to the departments on the basis of time spent in each. After this is done, the amount assigned to each department is allocated to the profit centers within the department on the basis of chargeable hours valued at 100% rate level. Like quality control, industrial engineering probably will allocate its time in each profit center according to volume and complexity of operations.

5. Engineering Cost Building is involved—this overhead department includes all employees involved in building, maintenance and housekeeping, and their related costs. It also includes such related costs as insurance, taxes, and depreciation attributable to the building. The total cost of the overhead department will be allocated to each profit center on basis of square footage occupied.

6. Shipping and Delivery—this overhead department includes employees and related costs and delivery equipment made up to the delivery and shipping of the finished product.

This is a particularly difficult area to allocate, because the costs relate not only to activity, which would indicate the use of chargeable hours but to the physical nature of the product shipped and the quantity of shipment. A good way to handle this problem is to make it a separate profit center, allocate its overhead costs and charge the same directly to the sales function. If this is not practical, a reasonable compromise is to select activity and value, which indicates the use of production value of 100% as the basis for allocation to both department costs and revenue.

This completes the allocation of all manufacturing costs and permits us to compare hour rates at the manufacturing level.

General Administration and Selling Department Costs

The proper allocation of general overhead presents a much greater problem than other typical allocations—these general overhead costs are more removed from the production process than direct

departmental, or general factory, basis. It is difficult to allocate these losses to any meaningful grade of work, but this should not drive management from seeking the best and most equitable distribution formula as its goal to arrive at total profit water cost. It appears that the best way to remove these costs is to allocate each to the profit centers. There perhaps a product costing through a water cost over the share of overhead based on time spent there.

General and administrative expenses are normally activity-related, with some loss toward total overhead as complex or valuable work. Therefore, it is reasonable that these expenses be allocated to the production departments and profit centers based on the value of production or G&A rates.

Selling expenses are much more difficult, since they are related to the sales volume of each job. The most accurate method is to make separate rates each center with their own base rates, then add them directly to jobs based on time spent.

If manufacturing are involved, they should be treated in the same manner as G&A's. Unfortunately, because of the problems of time reporting as well as some technical processing considerations, we have found no practical way to implement this approach. Consequently, we resort to a general allocation method. The basic relationships activity and complexity, and to use production direct manufacturing rates to allocate value expense.

The addition of general administrative and selling expenses to manufacturing expenses produces our all inclusive costs.

The Base Rate Computation

The Base Rates at the three levels—G&A, Manufacturing and all inclusive—are computed by dividing the total cost figures attributed by the appropriate volume related to losses.

Volume—Capacity Utilization

Since we base rate on any cost element is a function of dividing volume into costs, it is important that we use certain general volume ratios as capacity utilization. The same utilization factor cannot necessarily be used in every center throughout the plant, for a job shop environment there are usually two defined types of profit centers:

1. A High Base Profit Center—where the predominant cost is direct labor. There is little or no master capital investment in a cost base center; an example of which would be hand finery or grinding.

2. **Machine hour Profit Factors**—where the predominant cost is the overhead applied to the cost, the examples of this could have been given as machine's machine hours.

After the two types of centers have been defined, the next step is to define capacity. Most capacity is set within the constraints of certain key machine profit centers (which will not then compete to compensate for defining capacity, the amount of support production, such as machine centers or small machine centers, are prepared as a level to support the key centers. There are three capacity levels:

1. **Standard Capacity**—defined as making the key centers of these skills, seven days per week, with support centers measured at levels necessary to support the key centers.

2. **Budget Capacity**—defined as the budget level of operations in all centers for the year as reflected in the annual profit plan.

3. **Actual Capacity**—this is actual level of activity at any given time and obviously is a deviation from budgeted capacity, if it is different from the budget.

In establishing the base rate, one should use a normal utilization factor judged of low utilization or consistently high utilization. An 85 percent utilization factor is reasonable in a standard center for establishing Fair Rate. The Budget Rate utilization factor may be different. Thus, volume in terms of chargeable hours in machine-hour should equal Movement of paid hours of direct labor provided for Fair Rate purposes.

In a machine-hour center a 75-80 percent utilization factor would be a minimum of two shifts appears reasonable for Fair Rate purposes. Again, Budget Rate utilization may be different. Thus, in a machine-hour center one would expect chargeable hours to equal 75-80 percent of available hours for Fair Rate purposes, as mentioned above, available hours should reflect a minimum of two shifts in machine-hour centers for Fair Rate purposes. (Figure 12-4.)

It should be noted that machine-hour center utilization will be

Time Center = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 + 17 + 18 + 19 + 20 + 21 + 22 + 23 + 24 + 25 + 26 + 27 + 28 + 29 + 30 + 31 + 32 + 33 + 34 + 35 + 36 + 37 + 38 + 39 + 40 + 41 + 42 + 43 + 44 + 45 + 46 + 47 + 48 + 49 + 50 + 51 + 52 + 53 + 54 + 55 + 56 + 57 + 58 + 59 + 60 + 61 + 62 + 63 + 64 + 65 + 66 + 67 + 68 + 69 + 70 + 71 + 72 + 73 + 74 + 75 + 76 + 77 + 78 + 79 + 80 + 81 + 82 + 83 + 84 + 85 + 86 + 87 + 88 + 89 + 90 + 91 + 92 + 93 + 94 + 95 + 96 + 97 + 98 + 99 + 100 + 101 + 102 + 103 + 104 + 105 + 106 + 107 + 108 + 109 + 110 + 111 + 112 + 113 + 114 + 115 + 116 + 117 + 118 + 119 + 120 + 121 + 122 + 123 + 124 + 125 + 126 + 127 + 128 + 129 + 130 + 131 + 132 + 133 + 134 + 135 + 136 + 137 + 138 + 139 + 140 + 141 + 142 + 143 + 144 + 145 + 146 + 147 + 148 + 149 + 150 + 151 + 152 + 153 + 154 + 155 + 156 + 157 + 158 + 159 + 160 + 161 + 162 + 163 + 164 + 165 + 166 + 167 + 168 + 169 + 170 + 171 + 172 + 173 + 174 + 175 + 176 + 177 + 178 + 179 + 180 + 181 + 182 + 183 + 184 + 185 + 186 + 187 + 188 + 189 + 190 + 191 + 192 + 193 + 194 + 195 + 196 + 197 + 198 + 199 + 200 + 201 + 202 + 203 + 204 + 205 + 206 + 207 + 208 + 209 + 210 + 211 + 212 + 213 + 214 + 215 + 216 + 217 + 218 + 219 + 220 + 221 + 222 + 223 + 224 + 225 + 226 + 227 + 228 + 229 + 230 + 231 + 232 + 233 + 234 + 235 + 236 + 237 + 238 + 239 + 240 + 241 + 242 + 243 + 244 + 245 + 246 + 247 + 248 + 249 + 250 + 251 + 252 + 253 + 254 + 255 + 256 + 257 + 258 + 259 + 260 + 261 + 262 + 263 + 264 + 265 + 266 + 267 + 268 + 269 + 270 + 271 + 272 + 273 + 274 + 275 + 276 + 277 + 278 + 279 + 280 + 281 + 282 + 283 + 284 + 285 + 286 + 287 + 288 + 289 + 290 + 291 + 292 + 293 + 294 + 295 + 296 + 297 + 298 + 299 + 300 + 301 + 302 + 303 + 304 + 305 + 306 + 307 + 308 + 309 + 310 + 311 + 312 + 313 + 314 + 315 + 316 + 317 + 318 + 319 + 320 + 321 + 322 + 323 + 324 + 325 + 326 + 327 + 328 + 329 + 330 + 331 + 332 + 333 + 334 + 335 + 336 + 337 + 338 + 339 + 340 + 341 + 342 + 343 + 344 + 345 + 346 + 347 + 348 + 349 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+ 683 + 684 + 685 + 686 + 687 + 688 + 689 + 690 + 691 + 692 + 693 + 694 + 695 + 696 + 697 + 698 + 699 + 700 + 701 + 702 + 703 + 704 + 705 + 706 + 707 + 708 + 709 + 710 + 711 + 712 + 713 + 714 + 715 + 716 + 717 + 718 + 719 + 720 + 721 + 722 + 723 + 724 + 725 + 726 + 727 + 728 + 729 + 730 + 731 + 732 + 733 + 734 + 735 + 736 + 737 + 738 + 739 + 740 + 741 + 742 + 743 + 744 + 745 + 746 + 747 + 748 + 749 + 750 + 751 + 752 + 753 + 754 + 755 + 756 + 757 + 758 + 759 + 760 + 761 + 762 + 763 + 764 + 765 + 766 + 767 + 768 + 769 + 770 + 771 + 772 + 773 + 774 + 775 + 776 + 777 + 778 + 779 + 780 + 781 + 782 + 783 + 784 + 785 + 786 + 787 + 788 + 789 + 790 + 791 + 792 + 793 + 794 + 795 + 796 + 797 + 798 + 799 + 800 + 801 + 802 + 803 + 804 + 805 + 806 + 807 + 808 + 809 + 810 + 811 + 812 + 813 + 814 + 815 + 816 + 817 + 818 + 819 + 820 + 821 + 822 + 823 + 824 + 825 + 826 + 827 + 828 + 829 + 830 + 831 + 832 + 833 + 834 + 835 + 836 + 837 + 838 + 839 + 840 + 841 + 842 + 843 + 844 + 845 + 846 + 847 + 848 + 849 + 850 + 851 + 852 + 853 + 854 + 855 + 856 + 857 + 858 + 859 + 860 + 861 + 862 + 863 + 864 + 865 + 866 + 867 + 868 + 869 + 870 + 871 + 872 + 873 + 874 + 875 + 876 + 877 + 878 + 879 + 880 + 881 + 882 + 883 + 884 + 885 + 886 + 887 + 888 + 889 + 890 + 891 + 892 + 893 + 894 + 895 + 896 + 897 + 898 + 899 + 900 + 901 + 902 + 903 + 904 + 905 + 906 + 907 + 908 + 909 + 910 + 911 + 912 + 913 + 914 + 915 + 916 + 917 + 918 + 919 + 920 + 921 + 922 + 923 + 924 + 925 + 926 + 927 + 928 + 929 + 930 + 931 + 932 + 933 + 934 + 935 + 936 + 937 + 938 + 939 + 940 + 941 + 942 + 943 + 944 + 945 + 946 + 947 + 948 + 949 + 950 + 951 + 952 + 953 + 954 + 955 + 956 + 957 + 958 + 959 + 960 + 961 + 962 + 963 + 964 + 965 + 966 + 967 + 968 + 969 + 970 + 971 + 972 + 973 + 974 + 975 + 976 + 977 + 978 + 979 + 980 + 981 + 982 + 983 + 984 + 985 + 986 + 987 + 988 + 989 + 990 + 991 + 992 + 993 + 994 + 995 + 996 + 997 + 998 + 999 + 1000 + 1001 + 1002 + 1003 + 1004 + 1005 + 1006 + 1007 + 1008 + 1009 + 1010 + 1011 + 1012 + 1013 + 1014 + 1015 + 1016 + 1017 + 1018 + 1019 + 1020 + 1021 + 1022 + 1023 + 1024 + 1025 + 1026 + 1027 + 1028 + 1029 + 1030 + 1031 + 1032 + 1033 + 1034 + 1035 + 1036 + 1037 + 1038 + 1039 + 1040 + 1041 + 1042 + 1043 + 1044 + 1045 + 1046 + 1047 + 1048 + 1049 + 1050 + 1051 + 1052 + 1053 + 1054 + 1055 + 1056 + 1057 + 1058 + 1059 + 1060 + 1061 + 1062 + 1063 + 1064 + 1065 + 1066 + 1067 + 1068 + 1069 + 1070 + 1071 + 1072 + 1073 + 1074 + 1075 + 1076 + 1077 + 1078 + 1079 + 1080 + 1081 + 1082 + 1083 + 1084 + 1085 + 1086 + 1087 + 1088 + 1089 + 1090 + 1091 + 1092 + 1093 + 1094 + 1095 + 1096 + 1097 + 1098 + 1099 + 1100 + 1101 + 1102 + 1103 + 1104 + 1105 + 1106 + 1107 + 1108 + 1109 + 1110 + 1111 + 1112 + 1113 + 1114 + 1115 + 1116 + 1117 + 1118 + 1119 + 1120 + 1121 + 1122 + 1123 + 1124 + 1125 + 1126 + 1127 + 1128 + 1129 + 1130 + 1131 + 1132 + 1133 + 1134 + 1135 + 1136 + 1137 + 1138 + 1139 + 1140 + 1141 + 1142 + 1143 + 1144 + 1145 + 1146 + 1147 + 1148 + 1149 + 1150 + 1151 + 1152 + 1153 + 1154 + 1155 + 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1728 + 1729 + 1730 + 1731 + 1732 + 1733 + 1734 + 1735 + 1736 + 1737 + 1738 + 1739 + 1740 + 1741 + 1742 + 1743 + 1744 + 1745 + 1746 + 1747 + 1748 + 1749 + 1750 + 1751 + 1752 + 1753 + 1754 + 1755 + 1756 + 1757 + 1758 + 1759 + 1760 + 1761 + 1762 + 1763 + 1764 + 1765 + 1766 + 1767 + 1768 + 1769 + 1770 + 1771 + 1772 + 1773 + 1774 + 1775 + 1776 + 1777 + 1778 + 1779 + 1780 + 1781 + 1782 + 1783 + 1784 + 1785 + 1786 + 1787 + 1788 + 1789 + 1790 + 1791 + 1792 + 1793 + 1794 + 1795 + 1796 + 1797 + 1798 + 1799 + 1800 + 1801 + 1802 + 1803 + 1804 + 1805 + 1806 + 1807 + 1808 + 1809 + 1810 + 1811 + 1812 + 1813 + 1814 + 1815 + 1816 + 1817 + 1818 + 1819 + 1820 + 1821 + 1822 + 1823 + 1824 + 1825 + 1826 + 1827 + 1828 + 1829 + 1830 + 1831 + 1832 + 1833 + 1834 + 1835 + 1836 + 1837 + 1838 + 1839 + 1840 + 1841 + 1842 + 1843 + 1844 + 1845 + 1846 + 1847 + 1848 + 1849 + 1850 + 1851 + 1852 + 1853 + 1854 + 1855 + 1856 + 1857 + 1858 + 1859 + 1860 + 1861 + 1862 + 1863 + 1864 + 1865 + 1866 + 1867 + 1868 + 1869 + 1870 + 1871 + 1872 + 1873 + 1874 + 1875 + 1876 + 1877 + 1878 + 1879 + 1880 + 1881 + 1882 + 1883 + 1884 + 1885 + 1886 + 1887 + 1888 + 1889 + 1890 + 1891 + 1892 + 1893 + 1894 + 1895 + 1896 + 1897 + 1898 + 1899 + 1900 + 1901 + 1902 + 1903 + 1904 + 1905 + 1906 + 1907 + 1908 + 1909 + 1910 + 1911 + 1912 + 1913 + 1914 + 1915 + 1916 + 1917 + 1918 + 1919 + 1920 + 1921 + 1922 + 1923 + 1924 + 1925 + 1926 + 1927 + 1928 + 1929 + 1930 + 1931 + 1932 + 1933 + 1934 + 1935 + 1936 + 1937 + 1938 + 1939 + 1940 + 1941 + 1942 + 1943 + 1944 + 1945 + 1946 + 1947 + 1948 + 1949 + 1950 + 1951 + 1952 + 1953 + 1954 + 1955 + 1956 + 1957 + 1958 + 1959 + 1960 + 1961 + 1962 + 1963 + 1964 + 1965 + 1966 + 1967 + 1968 + 1969 + 1970 + 1971 + 1972 + 1973 + 1974 + 1975 + 1976 + 1977 + 1978 + 1979 + 1980 + 1981 + 1982 + 1983 + 1984 + 1985 + 1986 + 1987 + 1988 + 1989 + 1990 + 1991 + 1992 + 1993 + 1994 + 1995 + 1996 + 1997 + 1998 + 1999 + 2000 + 2001 + 2002 + 2003 + 2004 + 2005 + 2006 + 2007 + 2008 + 2009 + 2010 + 2011 + 2012 + 2013 + 2014 + 2015 + 2016 + 2017 + 2018 + 2019 + 2020 + 2021 + 2022 + 2023 + 2024 + 2025 + 2026 + 2027 + 2028 + 2029 + 2030 + 2031 + 2032 + 2033 + 2034 + 2035 + 2036 + 2037 + 2038 + 2039 + 2040 + 2041 + 2042 + 2043 + 2044 + 2045 + 2046 + 2047 + 2048 + 2049 + 2050 + 2051 + 2052 + 2053 + 2054 + 2055 + 2056 + 2057 + 2058 + 2059 + 2060 + 2061 + 2062 + 2063 + 2064 + 2065 + 2066 + 2067 + 2068 + 2069 + 2070 + 2071 + 2072 + 2073 + 2074 + 2075 + 2076 + 2077 + 2078 + 2079 + 2080 + 2081 + 2082 + 2083 + 2084 + 2085 + 2086 + 2087 + 2088 + 2089 + 2090 + 2091 + 2092 + 2093 + 2094 + 2095 + 2096 + 2097 + 2098 + 2099 + 2100 + 2101 + 2102 + 2103 + 2104 + 2105 + 2106 + 2107 + 2108 + 2109 + 2110 + 2111 + 2112 + 2113 + 2114 + 2115 + 2116 + 2117 + 2118 + 2119 + 2120 + 2121 + 2122 + 2123 + 2124 + 2125 + 2126 + 2127 + 2128 + 2129 + 2130 + 2131 + 2132 + 2133 +

lower than machine under utilization because of the needs in the plant for machine-perpetrative maintenance, general maintenance, etc. Such functions normally are not present in a stand-alone under.

Cost of Capital

Another level of analysis must be considered before a report. The distribution of capital costs in each profit area permits the development of a TAP that will provide a specified return on investment.

In a pricing company there are five types of costs or investments:

1. Cash and accounts receivable
2. Work in process inventory
3. Raw material inventory
4. Fixed return investment
5. Manufacturing equipment

Each profit center utilizes each of these assets in different amounts and proportions. A comparison center on the fixed and raw materials inventory plant will have a proportionately higher investment in work-in-process than the factory, which will have its inventory factor. Square footage utilization and equipment investment will not be the same. Consequently, the amount of capital cost required to be added on to expense to provide the target return on investment varies by center. Each center must be computed separately, using the following, step-by-step procedure:

Step 1: Compute target returns on each type of asset necessary to produce total assigned average returns on all assets. Assume the company has annual sales of \$50 million and total net assets of \$5 million. Raw materials are 40 percent of sales.

Return on a number of inventory's assigned. The return on cash and accounts receivable should utilize the current short-term borrowing

Assets	Average for quarters		Target Return	
	\$ MIL. INVESTED	AMOUNT	%	\$ MIL.
Cash and Accounts Receivable	40 days sales	\$6,250	8%	\$5,000
Work in Process Inventory	60 days sales	\$7,500	8%	\$6,000
Raw Material Inventory	90 days usage	\$2,250	8%	\$1,800
Plant and Manufacturing Equipment	—	\$30,000	8%	\$24,000
Investment	—	\$10,000	10%	\$10,000
Cost of Capitalization	—	\$16,000	8%	\$12,800
Total		\$56,000		\$49,600

Figure 10.1: Example of TAP Analysis

costs, inventory systems should be improved somewhat above the status as more liquid assets to reflect greater risk. The above cost and revenue should reflect the current market price for that type of property. The return on equipment should reflect the risk and current replacement cost. Since the cost schedule in Figure 17.6 is representative of many printing companies and the return reflect interest rates at the time of this writing, the target total return of 20 percent is considered with the above stated correctly by the more profitable printing companies.

Step 2: Compute hours sold. Estimated

In the example we will assume 10 hours a day, and 180 workdays per year.

Step 3: Develop the base rate for each profit center. We're all set as sample center with the following base rate structure:

1979 Rate	\$ 25.00
Manufacturing Rate	20.00
Self-Indirect Rate	25.00
Target Selling Price	0

Step 4: Building Costs Linked to Base Rate

Cost	Assessment	Adjustment
Cost and revenue overhead	Compensation rate paid	add material rate plus profit margin
Fixed or production cost	The average number of items required for process time	Manufacturing rate
Raw materials inventory	The average percentage under weight or short pieces per item	Cost of material plus shipping handling cost
Indirects	Expense charge related	As related per expense item
Expense or Expense Expense	The number of hours related directly	Fixed manufacturing
Cost and Revenue Available	Assess value rate of delivery hour and 20 volume that rate of 100 hours, which equals an investment of \$2000	
	Target return 20% = \$2,000 = \$400 annually	
	\$400 divided by annual hours of 2,000	
	= \$.20 per hour	
	Manufacturing	
	20 hours are added to manufacturing production rate of 100 hours	
	120 hours = manufacturing rate of \$200	
	= Fixed annual investment of \$200 = 20% = 20%	

expenses, limited by annual limit of \$1,000
 @ 10% per year
Amount

Net Cost: Difference between the increased net
 benefit
 Total Investment \$1,000 x 10% = \$100
 \$1,000 including investment of \$100
= \$1,100

Expense: Total Investment \$1,000
 \$1,100 x 10% = \$110
 \$1,000 including investment of \$100
 @ 10% per year
Amount

Note: If replacement value was not included the overall expense would be
 approximately "value of only" in present.

The Investment		
all inclusive		\$10,000
Capital Assets Expendable Items	\$1,000	
Fixed Intangible Expendable Items	100	
Real Estate Items	1,000	
Depreciable Assets	2,000	
Total Capital Expendable Items		\$4,100
Expendable Item Item		\$5,900

Direct Cost Indirect Method

There are attempts to handle direct markups to cover costs related
 to purchasing, storing and processing material. However, include all of
 these expenses as overheads in the accounting/financial notes. When the
 ECC's are not used that are significant relative to total operating ex-
 penses, this is adequate. Examples in most plants would include job,
 time and place, and which type to be treated as operating expenses.

When within a component like paper is a non-plastic and some of
 the other items may be in special situations. It is necessary to establish
 a separate profit center to record related expenses.

The analysis of these expenses will indicate the required markups.

The final indirect cost ECCs is computed as follows, using paper as
 an example:

Handling Costs **Handling:**

- 1. Total handling costs of paper (100%)
- 2. Total pounds handled x 1.0000 pounds
- 3. Handling cost per pound (100%)

Handling may include labor and administrative overhead
 related to purchasing and inventory management.

Storage Costs

Assumptions

Company's cost of warehouse, storage bins, depreciation, etc. \$10,000

Total pounds handled 1,000,000

Storage cost per pound of inventory per year \$.010

Calculations

Assumptions

Warehouse cost investment \$10,000

dollar in budget when 100 = 10,000

Storage warehouse portion of 1,000,000 pounds

dollar per pound of inventory per year \$.010

Costs on a specific item

Particulars of paper

1. 10 per pound

1. Handling cost per pound

\$.010

2. Storage cost—storage bins to store for 10 days

Cost per pound per year 10% divided by 1 = 1

\$.010

3. Warehouse investment

Cost per pound per year 10% divided by 1 = 1

\$.010

4. Inventory investment

10% divided by 1 = 10% annual investment of \$.010

per pound 10% = \$.010 = 1

Total cost

\$.030

\$.030

This represents a markup of 10.5 percent of the cost. Included handling charges relate to the number of pounds handled—not the cost per pound.

Storage cost and the warehouse investment relate to the number of pounds and the inventory cost—not the dollars invested in paper.

The inventory investment relates to the cost of the paper and the handling cost. Therefore, these generalizations may be shown:

1. The cheaper the paper, the higher the cost of handling and the cost of storage as a percent of the cost of the paper.

2. The slower the inventory turn, the higher the cost of storage and investment relative to the cost of the paper.

This means that FPL requires a system of variable markups reflecting the circumstances of each case.

Reconciling the Computations

Before finalizing the base rates, management should reconcile its computations to be absolutely certain that the base rates, when multiplied by the number of hours, does in fact equal the budgeted expense.

One Last Caution

Base rates do not set selling price. They indicate cost within the

properties of their definition and provide a logical analysis. When combined with production performance (efficiency), lower price provides product cost cost a product TBT. But these figures must be applied intelligently to actual market conditions, because it is the market which sets the selling price.

Setting the actual selling price to effectively promote the market sale of the most basic products requires extensive research and extremely complex process requiring detailed discussion of religious policy, specialization, standardization, competitive processes, economic cycles, and the whole area of volume/quality management.

The steps outlined below are not intended as adequate treatment of the subject, but as a summary of how lower rates, when wisely implemented, can be useful tools in developing pricing policies and strategies.

The first step in using a performance lower rate is to make sure the individual has adequate knowledge of the lower rate ingredients. Once this is done, major procedures and methods must be considered for use. The aim to establish is realistic selling prices. Three of the most important procedures are:

1. Determine the general market price levels, either as an area, product, or individual job basis.

2. After these general market price levels have been established, these should be compared to the per financial rate to determine significant deviations. If none exist, there is, obviously, no problem.

The market price levels should also be tested against the budget financial rates. If there are higher than market prices and the per rates, the tendency should be to go with the per rates. This would not be price setting—it is merely putting the word of its economic value, judged of efficiency, cost, and otherwise problems. The aim is to put pricing the word on the per level. If the selling price is reduced below per rates, this would constitute price cutting, since there is no logical economic justification for such reduction, except in extreme emergency situations.

3. If there are deviations, some effort should be made to ascertain the reasons. The deviations might be caused by such factors as: volume engagement, mathematics, economic costs, low utilization, etc. The important point here is to make sure that we fully understand the reason of the deviations and why they occur.

4. After these deviations are fully understood, a pricing strategy must be developed for the establishment of a fair selling price levels.

price must be tested for contribution to overhead and profit standards, profit is checked to its use, its product tested against desired financial rate of return on investment, and, finally, preparing and evaluating production circumstances and conditions during expected production period.

SUMMARY

Developing cost rates is a vital part of a managerial control system. The Hour Rate is the unit cost most commonly used in the printing industry.

There are four types of hour rates:

- a) The actual Hour Rate
- b) The Standard Hour Rate
- c) The Standard Budgeted Hour Rate
- d) The Standard Far Hour Rate

The actual Hour Rate represents the actual unit costs for past accounting periods. It makes no account for variations from time to time, standard is average rate. The more sophisticated time projections in a budget, and develop standard budgeted rates.

The Far Rate, which represents an idealistic, is used to evaluate the practicability of budgeted hour rates.

The hour rates apply to numerous rates. The Effect Factor additives, which are evaluated from hour rates, are charged directly to the jobs on which they are used.

The preparation of hour rates involves the distribution of expenses to profit centers. Expenses that are directly related to centers are easy to distribute.

Those that become interrelationships must be allocated, allocation methods indicate logical relationships between the expenses used and the profit centers benefiting from the expense. They result and up being judgments that are compromises between practicality and accuracy.

The final variable is hour rate, the volume (the number of units) over which the overhead burden is spread.

Hour rates are computed at four levels: G&P, manufacturing, all-inclusive and T&P.

Hour rates additives require readings that reflect related expenses and a far return on investment.

THE ENGINEERING FUNCTION:

The Better Mousetrap

In every manufacturing operation with printing as exception, there exists an Engineering Function. For the role of engineering in printing has not been as fully recognized by company managers. As a matter of fact, whenever the subject is introduced to printers, an oft-repeated question is: "What does your mean by the engineering function?"

The function must be understood, for an improved understanding of the role of engineering, and a corresponding effort to apply engineering principles to printing, plant management offers a good potential for more profitable operation. Engineering is a term attached to a total management control system.

The Role of Engineering

That application to printing, engineering may be divided into three parts:

- Product Design
- Design of Manufacturing Equipment and Facilities
- Operational Engineering

Product Design

The concept of product design deals with efforts to build the potential "better mousetrap" in most industries, a major competitive factor in new versions of a product that is better than the competition's. The process of product design begins with the study of the potential market and its product requirements. The company that

most deeply understand market needs, and designs a product to effectively fulfill those needs as a competitive price usually will replicate a distinct competitive advantage.

Examples of the impact of product design on market development abound in our society—particularly in regard to consumer goods. By offering a wide variety of consumer products, for example, the food processing industry has progressed the basic diets of Americans far beyond basic kitchen designs.

By consistently improving its designs, offering models to appeal to all tastes, and placing great emphasis on style, the automobile industry created an ongoing demand for cars. The industry's current position may be due in part to its failure to keep product designs in harmony with the market's needs and desires.

The drug industry, with less success in defining market needs, has only to recognize the ailments that people suffer. It then spends billions in research for drugs to cure these ailments. The companies whose research efforts have produced the most effective drugs have dominated the health markets.

Product-designing engineers incorporate new or improved products to serve existing markets, usually substituting older products. A look at the ballpoint pen, and what it has done to the market for fountain pens,

By fulfilling an unrecognized or unfulfilled need, a new product may create a whole new industry. At one point in the past, for example, all communications had to be relayed from person to person. With the invention of the telegraph, the telephone, the radio, and finally television, near and distant humans connected, and the public's new ability to communicate gradually presented it with new pressing communications needs. Today's newspaper industry is supplanted in one hour by worldwide instantaneous communications networks and, on the other, by the public's desire to be informed—by direct and always-up-to-date news, but a hole was sharpened by the experience with the broader generalizations.

The point is that the direct creation, not of new and improved products but, instead, from engineering advances, the initiator has taken has almost been an individual or firm that, first, saw a need, then took the initiative to try to find a way to better way to fulfill it.

Contrast this initiative with the traditional approach to product design based in printing shops. In the most past, customers have designed their goods in the mind their needs as they are, then, then their hand products which would incorporate the design in earlier chapters.

we talked about the importance of developing a specialty as part of the overall corporate strategy. While a specialty, the printer can begin to develop product design initiatives. It may become consultative on the needs of a specialized segment of the market and not begin to dominate in efforts to meet collectively most needs.

Design of Manufacturing Equipment and Supplies

In a few industries, particularly large ones, such as the automobile industry, the method of manufacturing and the design of the related equipment have been developed largely by the manufacturer. In some industries, the engineering design of equipment has been performed by equipment manufacturers. The development of the supplier—paper, ink, chemicals, collection, etc.—also will have been undertaken by that supplier.

In our case our process design is a result of the product design of suppliers who have comparatively underused our needs, and therefore with their offerings.

Because equipment manufacturers need design equipment around production large enough to create an adequate market, printers (or specialists) can help with the engineering task of “adapting” the equipment to fit special needs. The printer’s equipment consultant takes standard equipment for various processes from different manufacturers and build an integrated production system.

Operations Engineering

Extending beyond product and equipment design, the engineering role in manufacturing includes, in operations, safety, preventive maintenance, plant layout and industrial engineering. The latter is a rapidly expanding discipline with tremendous potential for the printing industry, involving, first, the selection of methods and procedures to make the most efficient use of equipment, labor and materials.

Such methods and procedures established industrial engineering techniques that can be extended to develop performance standards and work measurement techniques—two extremely important functions in the printing industry. The first promotes the development of more standardized product costs. The second subject is the measurement of efficiency and provides important information to the management needed there from.

THE FUNCTIONS OF MANAGEMENT

In management: Tasks, Responsibilities, Functions, Peter Drucker defines the role of production management:

"Production is not the application of business materials. It is the application of logic to work. The more slowly, the more accurately, the more rationally the right logic is applied, the better a business and the more of an opportunity production becomes."

To perform the prime role of the engineering function is to develop the "right logic" for solving the production problem.

Drucker sets forth the following four principles of production:

1. Unique Product Production
2. Flexible Mass Production
3. Rigid Mass Production
4. Process or "low" production

There is no single "right" system of mass. Each approach has its strengths and weaknesses; each requires certain conditions and skills. Whichever system it is using, management must recognize it and be sure it is the one with the most potential for its specific situation.

Unique Product Production

This is the traditional "job shop" approach familiar to most printers. The advantage of the Unique Product method, in which each job is custom produced, is its flexibility. The disadvantage is that it leads to low unit labor turnover and repetition.

Process Production

At the other end of the spectrum is this principle, in which the process and the product are totally interrelated. As a consequence, for instance, cannot be modified to produce a different product without altering the process. Most chemical products would be produced in accordance with this principle.

The advantage is economy resulting from very highly automated operations. The disadvantage obviously is inflexibility, because the products usually are single purpose.

Flexible and Rigid Mass Production

These two principles occupy the middle ground. Their strength over the unique product approach is the economy that comes from standardization, a process that permits a massive range of specifications, increasing the opportunity for repetition and automation in the

production process. Both of these improve efficiency, and reduce costs.

These production methods standardized tools, equipment and materials—components that are used to make standardized parts, or “product modules”, as we call them in our printing operation.

In flexible mass production, the standardized parts are assembled in a variety of ways to produce a diversity in the finished products.

In rigid mass production, the end product is rigidified. (Examples include almost any consumer product you can think of—cars, radios, T.V.’s, clothing, etc.)

The line between flexible and rigid mass production is a matter of degree rather than sharp definition.

The automobile industry is a good example. General Ford built the standard line on the principle of rigid mass production. They modified any rule car—working on the assembly line to turn parts, manufacturing to spread to diverse markets, automobile manufacturers broadened the system, utilizing the principles of flexible mass production.

It is interesting to note that the line rigid and semi, and permitted foreign manufacturers to compete with their specialized line.

Lincoln Cathedral

Lincoln tells a very interesting story about Lincoln Cathedral built in Southern and Western Europe between 1100 and 1200. This story is particularly applicable to printing because both place a heavy emphasis on architecture.

There is not the slightest doubt that these (the cathedral) were the product of flexible mass production. The basic parts, including bricks, roofing, and so on, were fully standardized. But their assembly varied with the architect’s plan. Other windows, carvings, doors, i.e., the features that make one church look different, were produced by unique production methods. But—and this is really important—all these are features that are added to the finished building. Diversity of product is added *varies* in the Gothic Cathedral, and even more in the small Gothic parish church, was provided at the very end of the process. The basic process itself was rigidified, though I would like to see large diversity of finished products.

ADDING THE PRINTING PROCESS TO THE MASS PRODUCTION TO PRINTING

“What has the modernizing operation long with the principle of unique product—the job shop approach?”

showing two apparent reasons: that first, that the product design has been done by the customer. But he does not have budget control or the ability to say "no," publishers have been slow to see the potential of standardization. Reasons are partly in those cases in line of their lack of practical printing plant that resist the effect of change in certain order that the customer may make an individual value judgment.

Second, the customer has placed a higher priority on the satisfaction of his transportation needs. He wishes that printing were more like any convenience of the total cost of a publishing effort. Therefore...and the indication of recent years and the comparison of other convenience along media—publishers with a rationalization: how have not really standardization possible, but the printer?

There is probably a third reason that relates to the attitude of the printer. This is that, until recently, he has not shown much initiative to specialize. Reacting only to customer' requests, he has been content simply to fulfill them. Remember that the initiative the product design made in most industries with the seller, and the buyer—who cannot wait to see products until they are offered. Consequently, until printer assume the initiative, and until they demonstrate that their product design offerings are functionally superior to most competitors, the buyer has no incentive to change his position.

WHAT DO WE PROPOSE?

We advocate that the printer recognize the potential to him and his customer of standardizing. Rather than viewing printing as a craft in which every job is really unique, we propose to develop standardized procedures and materials that will enable more efficient the publishers of books and publications. Therefore, the creation of standardized parts, or as we call them, product modules.

It is recognized that the final printed product is most beautiful, but much of the diversity is in the content: the message, the photographs, the colors and the layout on page. The test of the ingenuity, and also, diversity of graphic design should be the designer's desire to maintain diversity while the convenience of standard products, rather than having to invent the expense of more standard product to its order to be the function.

Challenging the Status Quo

In applying the philosophical engineering to the printing industry, a general we call "product management," will also be challenged. For example, the traditional role of the customer—the originator of

standards, the production process, the purpose of the union and the prices all wrapped up in one, is questioned. We think that many institutions really have understood the range of their role, and because of this, they have not performed at a level commensurate with the Indian Republic. The concept of product management needs to change like the playing responsibilities when they have not been performed satisfactorily and by creating an understanding of the interrelationships of the several roles.

Product management is best understood by optimistically discussing the various roles that collectively need to be played. One of the prime results of a formal approach to product management is the integration of individual efforts toward the corporate goal. (Figure 18.1.)

In the role of marketing consultant, we will outline the roles that various individuals play in product management, even though some of the same points have been made in previous chapters.

Product Policy

Product management begins at the first level, a management-making strategic decisions about the products in which we specialize, and the markets it wants to penetrate. In this connection, management establishes a "product policy" and assigns itself to carry out this objective.

Product policy results in a segment of the total market specialization. For, as discussed earlier, printers are finding that, if they know how to handle a specialized product, they find substantial efficiencies, resulting in a more competitive price for the customer and a higher profit for themselves.

"How do I find my specialty?"

One way to approach this selected question, the first, is to analyze the business you already are doing, and yourself whether there is one part of your volume that is particularly profitable, and that you are especially good at. If there is, you should try to build on this capability. If exportable volume exists, you should try to work your way out of it.

The second approach is the identification of a need in the marketplace. It is not that, as many printers believe, that specialization is "a big money thing," for in virtually every community, the short run, one-time, special one-time operations have sprung up and have been successful. These operations are small, are well-timed to a small printer's capability, and in some cases there have been studies by printers outside of the traditional printing firm.

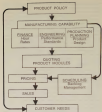


Fig. 18.1. Product Management Process Management

There is also a great demand for small specialty printers with creative design and good quality capabilities to do complex short run work. Despite the demand, most printers have ignored this very lucrative market. If only there were innovations enough to get it!

Many products require specialized know-how like very specialized staff of color separation, for instance. Without the know-how, you cannot compete in cost or quality with the printer who does have it.

Because competitive advantage all specialties and have all equipment, it is important to partition with the competitive potential and attempt to sell products that utilize the advantages developed.

Product Specifications

Historically, the customer, not the printer, has tended to determine the design of his job. Whether the most efficient use was made of the printer's equipment depended on the knowledge of the customer. In the worst cases, it depended on chance. Some printers have had customer relationships that permitted them to suggest more economical or practical ways of achieving the same result. But in too many instances, the printer either did not thought about it or have assumed the customer would not accept alternative suggestions.

Customers do not normally know how to take advantage of all of the specific equipment; nor do they know how to avoid designing an equipment-wast. Therefore, if you want to take on the important portion of customer demands, you cannot will develop a specialist.

Today, customers are being forced to become more and more busy. They are giving up many of the continuously-graphic services and are becoming more used to the idea that if they transfer their design specifications to equipment limitations, there will end up paying a great deal less for their product. Consequently, as customers become more systems-minded and informed, there tend to be more specifications to their approach to the design problem.

Unfortunately, most printers will let the customer design the product—although to use in a manner where the initiative important design and specifications are being in the printer, as it does in most manufacturing industries.

The emphasis on specifications is prompted by the fact that now, there are the price statements of cost and not, they determine whether the finished product is functional and acceptable.

Standardized Specifications

Having opened the subject, it is important to develop standard specifications—the physical characteristics of the product the customer is buying. In printing, they also include intangibles such as reliability. They do not include the conditions or terms of sale which are legal arrangements not affecting the production process.

The thrust in developing standardized printing specifications is, as in any manufacturing company, to design a product that functions better or costs less. The printing industry utilizes a great deal of specialized machinery and material. While each machine may perform a variety of tasks, it does not do them all equally well. There is a range of possible specifications which will make optimum use of the machine's capability. Landing at it another way, given a fixed set of

specifications, some machines, will produce the product either better or more efficiently than others.

The standardization of specifications consequently leads to the standardization of production methods, which means determining the best means of producing the given product. This is one of the most pressing areas for industrial engineering efforts.

Product Modules

Standardized production methods lead, in turn, to the ability to construct a "product module," which we define as:

the identifiable product in the printing process composed of a number of production steps and the materials related to them. From experience in effectively managing the construction of his job, the pressman knows the cost of the basic components or modules of his product and the incremental cost of the available options or variables which affect the total.

For instance, we use an 8 page classified newspaper as our basic module. The setting press includes the stopping ratio of our line together per page, two sets of headlines, photos and photographing as well as the underlines on the pages. Available options relate to the addition of halftones, the use of a second color or even four color process. The press workings also per thousand include paper handling and storage, circulation, and ink and press costs. The variables include the length of run, the quality or difficulty of the material being printed and the weight of the paper used. (Figure 11-1.)

Here other examples of product modules are a page of composition, setting, type line and size, type page dimensions and format, as well as difficulty of content, 4 news, 4-1-1-1, with its size, weight of paper, quality characteristics, length of run, etc., is another.

The product module means to the pressman that the customer does not care how the job is produced, he wants only to think of it in terms of needed characteristics. For instance, he wants to know base prices and the cost of adding an option, in order to make the appropriate value judgments.

The traditional approach to setting a job has been for agencies to give rather detailed specifications, and use total price with no breakdown. These agencies have had to have needed to describe in terms of process rather than product. In the contract, we believe the

[illegible]

Item	2006	2005	Total
Depreciation expense			
Depreciation - leasehold			
2006 - 2005 (\$10.00)	\$ 10.00		\$ 10.00
Depreciation expense			
2006 - 2005 (\$ 2.00) (negative) of 2006		2.00	
2006 - 2005 (\$10.00)	10.00		10.00
Other			
Other - 2006 - 2005			
2006 - 2005 (\$ 2.00)		2.00	
2006 - 2005 (\$10.00)	10.00		10.00
Amortization			
Amortization of intangibles			
2006 - 2005 (\$10.00)	10.00		10.00
Other items			
Other - 2006 - 2005			
2006 - 2005 (\$10.00)	10.00		10.00
2006 - 2005 (\$10.00)	10.00		10.00
Total items	\$10.00	\$10.00	\$10.00
Net loss			
Net loss - 2006 - 2005			
2006 - 2005 (\$10.00)	10.00		10.00
Other			
Other - 2006 - 2005			
2006 - 2005 (\$10.00)	10.00		10.00
2006 - 2005 (\$10.00)	10.00		10.00
Total items	\$10.00	\$10.00	\$10.00

emphatic classification as the systematic construction of a plot in terms of parts that are understandable by the reader, and which represent the variables he can control. If he changes the number of copies, what effect this seems to him on the size of output?

If this experience gets what he wants, why should he care about the technical details of how it was produced? There always will be the individual operators he has that are prone to repeat themselves. But, for the most part, this is operational hair splitting. In the long run, if your product is competitive and functional, the manner in which was produced is with not matter in the bulk of the market.

As a separate organization, "gender multiple" works with the open

hope that he has an automobile. He wants to know the price of various models, or he may compare the price of the options, such as power steering or air conditioning, as he may wonder whether he can afford them. He does not now have made it easy to change and the dealer, paid the top, to hope the engine block. He wants only to know that the job is done well.

In the printing plant, each product module should be supported in the product design department by a full of materials and labor, showing standard times, a quantity, as well as current costs. We suggest that a product design department be substituted for the traditional estimating department, and that design budget and be responsible for development of product modules and the preparation of quotes.

Production Planning

Production planning consists of determining the most efficient way to produce one product module. The module itself is all finished, preforming, it is made of parts, materials must all have a range of specifications within which it operates efficiently. Outside this range, there will be deviations or other limitations.

Traditionally, production planning has been performed by the estimator, in the product management concept, responsibility belongs to the production plant—based on the basis that the people responsible for performing the work should be responsible also for establishing the plan and procedure by which it is to be produced.

Standardization is a key aspect of production planning, for the designing of standard production units which make the efficient use of equipment and plant will help to develop the most competitive price; that only will then attract volume, but it will help the entrepreneur the finding for his money. Ideal of all theories of standardization processes and specifications contributes significantly to improving plant efficiency because it reduces the amount of variation, and reduces the number of variables that must be controlled and controlled.

The whole concept calls for writing, quote that throughout the entire life of the efficiency, as the product changes, as do the jobs and performance requirements. Then production personnel can concentrate on achieving the efficiency and set out in the standard—knowing that if they would like to be providing the customer with the amount of time sold to him in the quote.

All means, better to most efficient standards indicate a problem which must be resolved.

NAME: [REDACTED] ID: [REDACTED] DOB: [REDACTED] SEX: [REDACTED]
 GRADE: [REDACTED] SCHOOL: [REDACTED] DISTRICT: [REDACTED]

Subject	Score	Standard		Percentile		
		Level 1	Level 2	Level 1	Level 2	Level 3
Math	85	85-90	91-95	85th	90th	95th
Reading	80	80-85	86-90	80th	85th	90th
Writing	75	75-80	81-85	75th	80th	85th

STANDARDIZED TEST RESULTS

Math: Includes scores and standards for Math, Reading, and Writing.
 Includes scores and standards for Math, Reading, and Writing.
 Includes scores and standards for Math, Reading, and Writing.

Reading: Includes scores and standards for Reading, Math, and Writing.
 Includes scores and standards for Reading, Math, and Writing.

Writing: Includes all standardized writing scores and standards for Writing, Math, and Reading.
 Includes scores and standards for Writing, Math, and Reading.
 Includes scores and standards for Writing, Math, and Reading.

STANDARDIZED TEST RESULTS

Math: Includes scores and standards for Math, Reading, and Writing.

85 to 90 -- Below average score

80 to 85 -- Below average score

75 to 80 -- Average

Page 1 of 1

Standardized test results are provided for informational purposes only.

Math -- Below average score

Reading -- Below average score

Writing -- Below average score

Fig. 10-1: Performance Standards Chart

Performance Standards

Next is the development of performance standards for the selected operations and production plans. These standards derive from standardization. For cost only is the cost reduced by the most efficient utilization of labor and materials, but the accompanying social benefits more values of worker-spiritually in industrial activities in the context of competitive activity. This permits personnel to make a specialty of their skills and results in a further increase in efficiency.

Again, performance standards should be the responsibility of the production group. The best approach is to utilize industrial engineering—a management technique—industrial studies for efficiency in general but, individually, not by process (Figure 10-3).

When performance standards, the introduction of standards to the full of materials and labor from the Product Change group is usually built for preparing the system.

Efficiency, which is measured in terms of the output of volume, requires that there be a definition of the unit of output. For example, progress, at least is an appropriate unit. It should reflect, however, for an efficiency measurement.

In pricing, the normal measurement is units per hour, with the definition of a unit varying with the type of work.

Here are some examples of units:

Competition input:	hours
Costs:	number of sheets
Page number, page:	number of pages
Shipping:	number of bills
Production:	number of hours and plates
Research:	material, equipment
Binding:	steps, operations, books

Engineering or Managerial Standards

We develop engineering production standards using industrial engineering techniques. There is also essentially, sometimes one and several. For each machine, product specifications that affect efficiency—called efficiency variables—are developed.

The methods and procedures used to operate the machine, in doing the condition of raw materials or increasing processed work, are thoroughly analyzed to see they are the best & the best possible. We have achieved tremendous savings in modifying and standard

handling techniques, finding that changed wiring or materials production will often result in greater working output.

Having developed efficient methods and procedures and properly trained personnel to follow them, the industrial engineer proceeds to develop performance standards for each operation of the machine, as affected by each of the efficiency variables that he has identified.

These standards do not follow the historic, traditional way of developing standards in our industry, which is totally invalid. They are rigorous and standards for operations machines, or specific product, in a specific plant.

Finally, the engineer develops means of constantly increasing performance, so that actual can be compared with the standards. In actual fact is the (re)construction of the standards to the production operation and operations.

Costs Acceptance

As soon as a quote has been accepted, the next phase of product management begins. In order to compare specs of actual work with the quote, the people who use to do the work must know what was quoted in terms of specifications. If there is a difference, it must be recorded. When the actual work proves more difficult than that specified in the quote, the people working by doing work for which he does not get paid, either he exaggerates the difference. He can go back to the customer but will charge if he over-exaggerate the change in specifications.

The completed job is it important to hold planning session between the customer and the relevant customer service group, and representatives of various production departments. After the group has developed a detailed understanding of customer expectations as well as specifications specified the customer and various logistical details involved in the job, it can come up with a second "quote-plus" for production of the job.

Bidding

The next hurdle is the communication problem—getting the necessary information from those who do the work. As follows is following it.

The last step in product management involves applying the quote to the final product and determining the actual selling price including any value or deviations that might have resulted along the way. The



Fig. 10-4. Basic human-machine design.

must also be established the principles to be paid for what he did, comparing actual work to the quoted specifications. (Figure 10-4.)

QUALITY

While the role of engineering has not been widely recognized by most printers, its effectiveness has potential for those who understand it and implement engineering principles wisely.

Engineering, which begins with product design—building a “better tomorrow”—moves through the 4 basic steps: principles—unique product, flexible mass production, rigid mass production and generic production.

We propose a “product management” approach which moves printing from its traditional “unique production, or job shop, or “discount” towards flexible mass production.

This can be accomplished only through the development of a specialty, and a standardized product modules built on standardized production techniques and engineering performance standards.

PROFIT CONTROLS:

Until You Measure You Do Not Manage

The emphasis is often lost in chapter on budgeting planning. Now we are ready to consider some of the profit control techniques which we think are useful in managing operating plans. It has to be if present a number of forms and reports, the really important point is to understand what needs to be controlled, as opposed to a measure for the results of a particular approach. All of the techniques we are now for management and, as a matter of fact, we always are looking for ways to do so. While our techniques are not perfect, they are better than having no formalized controlling operations. Further are the specific techniques uniformly applicable to all companies. It is probable that a number of would not duplicate our techniques even if it was over-applying them to another company's particular situation.

In short, in this section of our profit controls, we are not presenting our techniques as the best, the only, or the final answer. We simply are presenting an illustration of how the controlling system can be built.

The organization of this chapter is based on Figure 14.1, *Chart of Applications*. We have covered most of the applications in the planning phase in prior chapters. Consequently, we will find our discussion of planning applications to be of interest that place the subject controls in context, and then present two discussions of the actual the applications.

We will first discuss the profit controls from the perspective of the system and look at them from the profit center's viewpoint in a following

point that there is, in fact, quite a bit of overlap specifically about the whole system function from one side here.

JOE PUGH'S CONTRIBUTION

PLANNING PHASE

The product of job profitability begins with the development of the product policy—the decision of what you want to sell. If the actual product offerings are not consistent with the plant's capabilities, the planner will find that his job profitability at competitive prices is not satisfactory.

The planning phase also includes the task of product design—the setting of detailed product specifications and the related production plan for processing them.

SELLING PHASE

The task of sales management is to define the desired behavior of the salesman so as to effectively implement the product policy. This means to create sales efforts that present the product you want to sell to the prospects that you want to buy it in the manner that you consider most effective.

The sales manager must then work to ensure that the actual behavior of the salesman conforms to the desired behavior.

The salesman that Henry at Henry Parker

The selling process begins with the salesman, armed with the retelling of product features, an in-depth knowledge of the product, customer needs and the economics of printing. This type of knowledge requires an experienced professional—not merely an under-taker with a few potentials or "good connections."

The salesman should be considered a key member of the management team, not reported to one's, and his responsibility is a highly effective manner. There are two basic truths that, nothing happens until a sale is made. Second a satisfactory sale depends too large part on the way the salesman manages the customer, plant relationship.

The salesman is, therefore, responsible for developing programs consistent with the company's product policies and the plant's current customer needs. When he develops a prospect who is genuinely interested in doing business, the salesman is expected to thoroughly review the

specifications of the proposed job with the customer, he should try to design the job to distinguish/real competitive advantages—“designing the customer” that meet his business.

The price of any job is determined largely by the specifications. If there are incomplete, the printer cannot quote accurately. If the customer does not understand them, he cannot intelligently evaluate the quote, nor can he make rational value judgments about options. Getting the specifications into proper shape, and arriving to a mutual understanding about them with the customer, is the responsibility of the salesman.

Preparing the Quote

The development of complete information is a great deal easier if the salesman is supplied with a format—Quoting Worksheet (Form, Figure 10-1). Here all of the information requested is essential for every job, particularly complete or routine work.

For the salesman who consistently completes this form is help, maybe complete, prepare the best possible quote, and he is making a rare favorable impression as a knowledgeable and thorough professional on his customer.

Using the existing price list where possible, and creating new standard product modules where necessary, the Quoting Worksheet prepares a four part quote sheet: specifications, price list and application as discussed in chapter 11. The idea is to show the customer exactly what it is you are committing to provide and on what basis. In addition, this approach emphasizes that the price should be put where the cost is, so that if and when the job changes, the price changes, preserving the profit margin.

The Pricing Decision

Even with a comprehensive presentation, you still are faced with the pricing decision. The system sets a list price, but the printer must decide under what circumstances he makes a premium and when he will discount the price. The answer is based in the following series of questions, which have to be asked concerning any critical job:

“What do you want?”

Forget selling. First you a financial situation. A knowledge of the current volume/capacity situation in the plant is essential, but it enables you to know if and where you need work, and whether you are already fully sold.

[illegible]

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Abstract

Consider the parameters of the PPF and the price levels. There are other logical reasons to modify the pre-specified or downward. These include:

More efficiency	no	Priceless
Lower costs	no	High costs
Wider scope	no	Quick delivery
Large order	no	Small order

What are you getting?

This is dependent on the competitive situation, if you agree, to fix some prices, transactions customer loyalty, but your intention to price guide and keep in mind the long-term customer relationship.

In the more normal competitive situations, the printer's knowledge of the marketplace becomes invaluable. It is extremely important to know who your competitors are, what type of equipment they use, and their relative pricing patterns. You should also consider your competitive advantages or disadvantages, including relative equipment capabilities, uniqueness of your knowledge, and cost levels.

In short, "how much are you getting" is described in the economic world as the elasticity of the market—how dramatically do volume changes respond to price level changes?

What is the value to the customer?

While some customers place greatest importance on reliability or quality, others always select the low bid. Unfortunately, it is often difficult to place a dollar value on the intangibles. But it is the task of the salesman and the computer to estimate the buyer that the lowest price is not always "the best buy."

In summary the pricing business is, by its very nature, progressive. After the proper planning has been done, the only way that pricing decisions can be evaluated is through the feedback of actual results. This takes two forms:

1. Short-term performance (Pricing Analysis)
2. Profitability of completed work (Profitability Analysis)

If a printer is getting everything that he is bidding on, the marketer selling him that he is very competitive. If the job runs out to be unprofitably profitable, he has an illustration of the job as not profitable, he knows that he should be raising his prices until either the work becomes profitable or until he begins to have significant portions of his bids.

Conversely, if he is not getting enough work to operate his plant, the market is getting poorer and he has to reduce his production volume even rapidly. Whichever course he takes is dictated by the profitability of the work at the price level he can sell it.

The flowchart of information is a function of the management control system.

The Supply Control System

A log of orders to be outstanding should be maintained. Figure 28-1 is a sample of such a log. This log is very important because it is the means by which the sales manager can determine priorities, and can control the program with which goods that orders are used.

There is nothing more important to the sales effort than to be late in delivering the goods. When there are conflicts, management must be able to select the most important orders.

Figure 28-1 shows a series of reports indicating orders submitted, outstanding, new and lost. These reports should be prepared regularly. The goods activity is then subject to an analysis similar to that applied to retail sales, as discussed briefly.

Follow-Up

The salesman delivers the goods to the customer, delivers an appropriate consultation, answers questions, and, in general, attempts to make sure that the customer completely understands the presentation. Many customers are not knowledgeable pricing buyers and unless the salesman is very sensitive to this point, the customer may not analyze and evaluate the quote accurately.

The salesman should also take the opportunity to get a feel for the customer's attitude. If it is negative, or indifferent, the salesman should consider additional efforts to improve the customer's selection price parameters.

The system places a great deal of emphasis on the back record—knowing what orders are outstanding, being sure appropriate follow-up action is taken, and being aware of the final disposition of the job. When you get a job you should know how it, but you should want to know who you were involved with the business, and how you compared with your competitors. When you lose the job, you should know the reasons, but should follow up, finding out who gets it, what factors tipped the scales in that direction, and anything else that will reveal your strengths and weaknesses.

The system should maintain detailed records by salesman, product

Year	Month	Day	Time	Location	Event	Remarks
1900	Jan	1	10:00	St. John's	Service	First service of the year.
1900	Jan	2	10:00	St. John's	Service	Second service of the year.
1900	Jan	3	10:00	St. John's	Service	Third service of the year.
1900	Jan	4	10:00	St. John's	Service	Fourth service of the year.
1900	Jan	5	10:00	St. John's	Service	Fifth service of the year.
1900	Jan	6	10:00	St. John's	Service	Sixth service of the year.
1900	Jan	7	10:00	St. John's	Service	Seventh service of the year.
1900	Jan	8	10:00	St. John's	Service	Eighth service of the year.
1900	Jan	9	10:00	St. John's	Service	Ninth service of the year.
1900	Jan	10	10:00	St. John's	Service	Tenth service of the year.
1900	Jan	11	10:00	St. John's	Service	Eleventh service of the year.
1900	Jan	12	10:00	St. John's	Service	Twelfth service of the year.
1900	Jan	13	10:00	St. John's	Service	Thirteenth service of the year.
1900	Jan	14	10:00	St. John's	Service	Fourteenth service of the year.
1900	Jan	15	10:00	St. John's	Service	Fifteenth service of the year.
1900	Jan	16	10:00	St. John's	Service	Sixteenth service of the year.
1900	Jan	17	10:00	St. John's	Service	Seventeenth service of the year.
1900	Jan	18	10:00	St. John's	Service	Eighteenth service of the year.
1900	Jan	19	10:00	St. John's	Service	Nineteenth service of the year.
1900	Jan	20	10:00	St. John's	Service	Twentieth service of the year.
1900	Jan	21	10:00	St. John's	Service	Twenty-first service of the year.
1900	Jan	22	10:00	St. John's	Service	Twenty-second service of the year.
1900	Jan	23	10:00	St. John's	Service	Twenty-third service of the year.
1900	Jan	24	10:00	St. John's	Service	Twenty-fourth service of the year.
1900	Jan	25	10:00	St. John's	Service	Twenty-fifth service of the year.
1900	Jan	26	10:00	St. John's	Service	Twenty-sixth service of the year.
1900	Jan	27	10:00	St. John's	Service	Twenty-seventh service of the year.
1900	Jan	28	10:00	St. John's	Service	Twenty-eighth service of the year.
1900	Jan	29	10:00	St. John's	Service	Twenty-ninth service of the year.
1900	Jan	30	10:00	St. John's	Service	Thirtieth service of the year.
1900	Jan	31	10:00	St. John's	Service	Final service of the year.

low and unknown, giving the ultimate disposition of all species. Factual genetic analysis will reveal weaknesses in your competitive position and marketing efforts. Acquiring to this information is critical when developing or modifying the corporate strategy or even short-term marketing tactics. Compiling a data base from this information provides the base of market grid analysis discussed in Chapter 4 and forms the basis for the annual profit planning efforts discussed in detail in Chapter 10.

JOB ENJOYMENT

After the quote becomes a job, the customer service department takes over. This is the core of a painter's operation. The painter who works in customer service—with meeting, pleasing, completed projects who have a good "customer manner"—the stamp of the painter's work, and actually builds a very positive image with his customers.

WORK SCHEDULES AND PRODUCTION PLANNING: "What Was Quoted?"

When the work is actually completed but before it is considered the job, all persons, including the salesman, the customer service department, production planning, production houses and the billing department, must be completely familiar with "what was quoted." This means more work is to properly plan the work, but to emphasize jobs do not materialize as they were originally quoted. Therefore, the actual work completed must always be compared with the quoted specifications so owner you are properly paid for what you do.

On any merchandised job, on job originated via, recommended that a planning session be held internally with the salesman, production, customer service and production department representatives. In this way, everyone becomes totally familiar with the job. Especially, a second planning session that includes the customer is important to work out details and develop a working relationship with open, candid and cooperative communications. These efforts should be supported by well-organized and complete job files, detailed schedules, proper materials planning and other work orders. This can all become a very time-consuming juggle, but it also can be a great asset in maintaining excellent work, establishing a reputation for reliability, and ensuring that the painter gets paid for what he did because he knows what he did.

A customer is normally very appreciative of the planning efforts

speculations on his behalf. His staff support and trust the printer when it is thorough and substantiated. It constitutes more chargeable and specific than a design. It usually can be identified and considered in that critical period between the second and the fifth and the start of actual production. There is disagreement if the individuals who were able to make get in, what and understand what the customer wants and what has been requested. Planning of this stage goes off in many ways—understanding, even, those official operations and happy customers.

EXECUTION PHASE

Preparing the Shop

Actual job production records are available only on the job; the printer gets the not only given about jobs on jobs he did not get. Performance on the job begins with an order entry system.

The people in the plant responsible for the work, including, not only the general manager but business and a sales, need instructions about what is expected of them. This communication both requires efficient job terms, details and work orders.

All instructions must begin with an understanding of "what is it that the customer wants." This is particularly important if the customer has important requirements—his business, a profitable program for a marketing. Throughout must be prepared the importance of the delivery date.

"What was quoted?"

An individual must have a tendency to change specifications without realizing that there are not quoted and there is actual production. Under these what do the actual work have: "what is quoted" and a customer's response. The most important of the quote, the printer will find that he is doing a lot of work for a lot of money and getting paid. This may not be a problem in a small shop, where the customer is also personally involved in processing the work. But, in larger shops where the customer does not usually see the actual work, this can be a big problem.

Other shops have been able to maintain consistency in operations from the quote to the actual work, there is still one more comparison that must be made. Production management must know what production plan must used in the quote, and what performance standards must applied.

The use of standard product models considerably simplifies the

said. If the product is composed of standard specifications, the production personnel automatically know that the standard production plans and performance levels have been met. If the product is not standardized, it is important to ensure continuous feedback the method of production used in the past and the method used to actually develop the work.

When the specifications and production plans are consistent, it becomes straightforward for production management to compare actual efficiency with specified efficiency—an extremely important control point in job profitability control.

If there were no other production factors that the expected performance level does not have met, if information errors do not occur, and if the actual and planned, it is apparent efficiency variance, as is it job efficiency? If it is a change in specifications, should the price get more money? If not, who wants it? Should the cost? If it is a case of non-standard standards, the nature of the problem must be conveyed to the estimating department so that the new information may be reflected in future quotes.

It should be clear that several other components—such as labor, equipment, and job profitability control—must be understood. The plant knows what is required of it and is constantly comparing its actual performance with the work it is being performed. If the efficiency variance is defined as work, the job is failed, several steps will be taken, and the plant will have to figure out what happened, requiring a thorough laborer to understand the situation. The burden for managing performance and identifying the factors must be on production management. Labor efficiency helps, when we look at profit control from the profit control viewpoint, we will discuss several new techniques for accomplishing this.

2.2.2 Costing

As discussed in Chapter 15, building the Cost Sheet, all have worked on each job to make profitability control and labor cost labor and profit to work in process account.

The Cost Sheet includes laborer, paper, ink, film, plates, outside purchase, etc.—all are recorded against the job in a systematic manner. Figure 15-1 shows sample reports that accumulate time and materials in work in process.

This data, because of its detail, is difficult to work with, and is therefore summarized on the Job Cost Summary Sheet, Figure 15-2. The report that summarizes the cost of the job and, therefore, forms the basis for the total of the work-in-process inventory.

1900		1901		1902		1903		1904		1905		1906		1907		1908		1909		1910		1911		1912		1913		1914		1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927		1928		1929		1930		1931		1932		1933		1934		1935		1936		1937		1938		1939		1940		1941		1942		1943		1944		1945		1946		1947		1948		1949		1950		1951		1952		1953		1954		1955		1956		1957		1958		1959		1960		1961		1962		1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		1977		1978		1979		1980		1981		1982		1983		1984		1985		1986		1987		1988		1989		1990		1991		1992		1993		1994		1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		2030		2031		2032		2033		2034		2035		2036		2037		2038		2039		2040		2041		2042		2043		2044		2045		2046		2047		2048		2049		2050		2051		2052		2053		2054		2055		2056		2057		2058		2059		2060		2061		2062		2063		2064		2065		2066		2067		2068		2069		2070		2071		2072		2073		2074		2075		2076		2077		2078		2079		2080		2081		2082		2083		2084		2085		2086		2087		2088		2089		2090		2091		2092		2093		2094		2095		2096		2097		2098		2099		2100		2101		2102		2103		2104		2105		2106		2107		2108		2109		2110		2111		2112		2113		2114		2115		2116		2117		2118		2119		2120		2121		2122		2123		2124		2125		2126		2127		2128		2129		2130		2131		2132		2133		2134		2135		2136		2137		2138		2139		2140		2141		2142		2143		2144		2145		2146		2147		2148		2149		2150		2151		2152		2153		2154		2155		2156		2157		2158		2159		2160		2161		2162		2163		2164		2165		2166		2167		2168		2169		2170		2171		2172		2173		2174		2175		2176		2177		2178		2179		2180		2181		2182		2183		2184		2185		2186		2187		2188		2189		2190		2191		2192		2193		2194		2195		2196		2197		2198		2199		2200		2201		2202		2203		2204		2205		2206		2207		2208		2209		2210		2211		2212		2213		2214		2215		2216		2217		2218		2219		2220		2221		2222		2223		2224		2225		2226		2227		2228		2229		2230		2231		2232		2233		2234		2235		2236		2237		2238		2239		2240		2241		2242		2243		2244		2245		2246		2247		2248		2249		2250		2251		2252		2253		2254		2255		2256		2257		2258		2259		2260		2261		2262		2263		2264		2265		2266		2267		2268		2269		2270		2271		2272		2273		2274		2275		2276		2277		2278		2279		2280		2281		2282		2283		2284		2285		2286		2287		2288		2289		2290		2291		2292		2293		2294		2295		2296		2297		2298		2299		2300		2301		2302		2303		2304		2305		2306		2307		2308		2309		2310		2311		2312		2313		2314		2315		2316		2317		2318		2319		2320		2321		2322		2323		2324		2325		2326		2327		2328		2329		2330		2331		2332		2333		2334		2335		2336		2337		2338		2339		2340		2341		2342		2343		2344		2345		2346		2347		2348		2349		2350		2351		2352	
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The total costs of all jobs completed, when added, produces the Cost of Goods Sold column on standard manufacturing costs, as shown on the monthly income statement, Figure 10-1, in Chapter 10.

Note that this particular job cost system does share a unit costed basis. It is not sharing our system. We will want to record standard hours as well. We will value inventory and cost of goods sold at their standard cost, so that the difference between LIFO, actual billing, FIFO and FIFO-Target billing, FIFO will indicate a pricing variation. The efficiency variation—the difference between actual hours and standard hours, valued at the standard manufacturing rate—will be taken into income during the period in which it occurs.

We will compute efficiency variances each job, accumulated by product and, of course, on each order, accumulated by each job. This will provide excellent evidence that performance standards have been appropriately applied to each job.

Standard Cost System

Inventory

After a job is completed, every price has the task of accounting for the work performed. If the price is not high enough to get a bill on a "cost plus" basis, the work goes to the job cost summary sheet to find out what the should amount has. That process must bill based upon predetermined prices, and it is this situation that our system is designed to handle.

Inventory, in our system, begins with the quote, as shown in Figure 10-5, in Chapter 10. The inventory table includes the length, size and the jobs into the product materials purchased on the quote. We have immediate incorporation and then pass this knowledge on to our materials store by the very marking process. The material store will bill prices too. There are the people who know what our their library knows the quote, and we already have indicated who we think they should, they are assume responsible for being sure that the price is paid for what for done.

Accurate inventory depends on accurate counting in the plant. Again, this is something that must be present any way in order to effectively control efficiency.

Figure 10-6 shows a sample invoice:

Standard Cost System

Standard Analysis

After the job has been completed, we produce the task which we



consider the most important and efficient job goals created are lower. Remember that our job-giving strategy is based on the philosophy of "putting the price where the cost is." In other words, every component of our operation must stand on its own in terms of profit. We're good average pricing like other players.

In cost terms, jobs are built up for each product module, system, subsystem. Similarly, we build up job costs on the job cost summary sheet, subsystem, by subsystem analysis. In revenue analysis, all are working to define the answer for the job, and breaking it back down in the manner in the manner in which they originally had been built up. That's a very important, a real answer for each module with the costs associated in that module.

Let's take an example:

The running charge on a language signature is \$100 per thousand, built up as follows:

\$1.00—ink
 .50—paperhandling
 \$.50—personnel

If the customer had their own signature, and a run of 10,000, we know that the basic price would be as follows:

100 lines (100) x \$100 = 10 signatures	<u>\$1,000.00</u>
The revenue analysis would show:	
ink: 10 x 100 = 100 x 1 =	<u>\$1.00</u>
paperhandling 100 x 100 = 100 x 1 =	<u>10.00</u>
personnel 100 x 1 = 100 x 1 =	<u>100.00</u>
	<u>\$111.00</u>

Figure 11-7 is a sample revenue analysis report. I tend to perform accounting on a weekly basis, and by product line.

If the plant has fulfilled its responsibility to pricing specifications and production plans, it will automatically be able to solve efficiency problems. This report is of immense value in analyzing pricing problems on given product or such as product line. Using this report as feedback, the person making the pricing decision has a detailed knowledge of actual costs and can use this knowledge to help pricing decisions.

SYSTEMS MANAGEMENT

The first element of profit center goals created is management of the volume/quality relationship. Profitability depends on volume

Year	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
1900	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099

volume and, as discussed in Chapter IV, volume is one of the major variables in competing unit costs.

Rating Issues

Order volume and pricing decisions must reflect the status of the backlog—the amount of work which remains to be done. There are two methods of work in which to measure backlog. We suggest at least two be used.

The first deals with proposed dollar shipments. The data is accumulated by maintaining a list of all open orders, with estimated dollar value and shipment dates. This can be summarized in a backlog projection, as shown in Figure 15-4.

Representing Sales Reports

Figure 15-5 is a sample of a sales manager's report used to measure job probability, as it can be analyzed by various factors influencing sales volume and price levels. It is run by customer, geographic market, product line, product coding and by reference to determine his volume, compare his contribution, analyze his performance. In addition, it is run by the customer according to a matrix, a "behavioral representation" to which the customer's work load, salesperson's management performance.

Charts are also prepared in the same analytical version.

Using the product coding technique that we have discussed, there is an infinite number of combinations in which volume and probability can be analyzed. The problem can quickly become one of too much information. The manager must always remember the basic purpose of his analysis—understand the factors that influence the probability of his work, to understand the impact that changed pricing levels would have on volume and profit, and to be able to make strategic marketing and equipment decisions that enhance probability by exploiting strengths or correcting weaknesses.

The second technique is to maintain a log of open time on the key orders, as shown in Figure 15-6.

FOR-CLERK Files

As the work is still, we think that it is very important that order job schedules should be prepared.

It job schedule should be handling open quantity of work—

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	1	2	3	4	5	6	7	8	9	10
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	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10
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	1	2	3	4	5	6	7	8	9	10
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	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10

a set number of pages and copies as well as the amount of the order. Individual orders should also have assigned times.

The accepted quantitative change, but there must be assumptions made for planning purposes. Both the customer and the printer should understand the assumptions, and the last degree of change would require modified job schedules.

The data in the job schedule is controlled to some by the customer, and machine requirements, and projected last-order loading.

The last-order scheduling tends to be the most effective means of loading the printers, although some are computers for the task, and we may also do so manually.

Executive Phase

The key to the control of the actual work flow is what we call job status control. This is another term for the sequencing function.

Job status control involves establishing key events, or "gates" that each job must pass through. If it passes an schedule an action is required. If it does not pass an schedule, the sequence must know it, investigate the circumstances, and determine if any action is required. The job may have to be rescheduled, or procedures may have to be modified to meet the existing schedule.

We are currently doing this via scheduling boards, but there plans to automate the function.

Each new job begins control in the Job Control, which uses either "scheduling" of the printer. This function requires that work requests and schedules be communicated to the line managers, and that they report work accomplished back to the scheduling department.

Doing the Work

Doing the work according to schedule is often an important factor in maintaining customer goods in good competitive position.

Analysis

The last report, Figure 10-11, which deals with capacity utilization, is the second report that has used changeable forms to make good control by job or product line. This information, which is a by-product of the time ticket and job costing systems, allows know-how the where and when the volume in each market originates. If we lose a job, or if it changes in one way, we can go to the information about capacity.

over the effort. If we give new jobs, we can project its volume against each worker to see the new volume/effort relationship.

The value agreed on was in a 'Worker Absorption Report', displayed as Figure 10.11, which shows the dollar value of the assignable hours worked during the week. If this information is properly made available, it can be an important guideline to expense levels. When absorption is shown, it follows that outside (O&O) expenses also should be shown.

It is also important for leading average cost information to determine if there is a problem, as shown in Figure 10.12.

MANAGEMENT CONSIDERATIONS

The management of efficiency at the profit center is an old element of profit control. As discussed in the last chapter, efficiency management begins with standardized production plans to ensure that each job is economically processed. Furthermore, engineered performance standards must be established for each operation in each profit center.

Execution Phase

If these conditions are met, the production personnel, from machine operators to facilities supervisor and top management, know what output is expected. They are required to measure output and compare it to the standard in the work is performed. If there is a deviation, they must investigate to maintain the trend.

And, as a matter of fact, it may be related to some peculiarity in the job, or a change in job specifications, or whatever production personnel communicate with the planning and sales to resolve the problem. Then investigation was found that it is a production problem—equipment failure, materials defects, or personnel training—so measures such as less production. Finally, identification of a problem, triggered by the comparison of actual performance with standard leads to a solution.

The strategy of this whole approach rests on the practical psychological effect of performance comparison itself. First people will measure performance when they understand what is expected of them, when they agree that it is reasonable, and are properly trained.

Good efficiency control therefore, requires constant monitoring of performance, which means that the operator must measure his own performance, or be immediately and clearly problem and make adjustments. Second, keeping, which means after the fact, not that

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management time performance it may be prevented in the future; what already has happened cannot be changed.

Analysis

The further they move from the operation, the more summarized the performance statistics become both in terms of the management decisions and in time. Figure 12-14, which is a daily production report taken from time sheets, is presented for each worker, for each shift throughout the month. The particular lowest demand shows standard hours because normal standards were used at that time; the report was first introduced. It would be much more meaningful if standard hours were included, and the hours could be standardized under the standard to permit performance comparisons, if standard hours are required.

"We use efficiency management to go over the hours and profit patterns, and report to make a great deal of progress in improving our techniques in this case in the foreseeable future."

INVENTORY CONTROLS

Job Entry Process

Having materials available when needed is an important part of inventory management. This means forecasting requirements, which has already led to the job scheduling function which we just discussed.

We have found Figure 12-15, the Job Planning Sheet for Paper Standards. We give this to the customer, and ask that he point to the quantity, and notify us of changes as soon as possible.

This information is then grouped by the type of paper to show total requirements, see Figure 12-16.

These reports demonstrate that management control materials do not always have to be computer based in the solution.

Of course, the paper must be ordered. We have used status report as shown in Figure 12-17 to trigger a purchase order.

Execution Process

Material Efficiency

The efficient use of materials—paper, ink, film and plates—is as important to profits as is the efficient use of labor.

Figure 12-18 is a report we use for plate plate orders. When this figure breaks down 4-5 percent, we take action.

Paper spillage is a major concern, and we think a picture should go

[illegible]

THE

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
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[illegible]

1. The first part of the document is a list of names and their corresponding dates. The names are listed in the first column, and the dates are listed in the second column. The names are: John Doe, Jane Smith, and Bob Johnson. The dates are: 1990, 1991, and 1992.

Name	Date	Details	
		First Name	Last Name
John Doe	1990	John	Doe
Jane Smith	1991	Jane	Smith
Bob Johnson	1992	Bob	Johnson

Name	Date	Details	
		First Name	Last Name
John Doe	1990	John	Doe
Jane Smith	1991	Jane	Smith
Bob Johnson	1992	Bob	Johnson

to great lengths to measure and record paper usage. We compare the standard paper allowance on every job, separating the paper waste from the "waste less atmosphere." The message that no paper may leave the machine without a requisition. Students are not permitted to "help themselves."

Figure 13-13 is a summary of these requirements for paper usage analysis.

We analyze materials in three ways. First, we are concerned with the efficiency, as mentioned above.

Secondly, we build usage patterns to help us to design better models. This aspect is described in Figure 13-14, *Revised Paper Requirements*.

Thirdly, we are concerned with controlling the investment in inventory. This, we compare next.

INVENTORY IS A MAJOR SYMBIOTE

In this area, we are concerned with having enough stock to keep the belts and wheels rolling but the stock which we have purchased. The two are closely related.

Rolling Phase

As quotas are prepared, credit checks should be made on any students with which a printer is not familiar. If a student has a record of dropping or shirking school's responsibilities, because of alleged delinquency, the chances are that one will have trouble with him or her.

Any printing job would be gotten more quickly to us as trouble (credit problems are first avoided by good credit, receiving jobs to complete the work.

Job Entry Phase

The printer should regularly contact his credit requirements. Based on current volume and seasonality, let his business responsibilities be aware of his credit availability, let them arrange to obtain the funds quickly through short-term bank borrowing.

Financial stability of cash is one of the earliest warning signs of impending problems; credit the owner should be informed and involved.

Closing Out

When reaching the position of collections, a printer should maintain a list of open accounts receivable, Figure 13-15.

**The British Railways: The
Statement on Financial Performance
(September 1991)**

Statement Item	1991-92	1990-91	1989-90	1988-89	1987-88	1986-87
Revenue	£1,100,000,000	£1,050,000,000	£1,000,000,000	£950,000,000	£900,000,000	£850,000,000
Operating Costs	£850,000,000	£800,000,000	£750,000,000	£700,000,000	£650,000,000	£600,000,000
Operating Profit	£250,000,000	£250,000,000	£250,000,000	£250,000,000	£250,000,000	£250,000,000
Depreciation	£100,000,000	£100,000,000	£100,000,000	£100,000,000	£100,000,000	£100,000,000
Interest	£50,000,000	£50,000,000	£50,000,000	£50,000,000	£50,000,000	£50,000,000
Other Income	£20,000,000	£20,000,000	£20,000,000	£20,000,000	£20,000,000	£20,000,000
Profit Before Tax	£120,000,000	£120,000,000	£120,000,000	£120,000,000	£120,000,000	£120,000,000
Income Tax	£30,000,000	£30,000,000	£30,000,000	£30,000,000	£30,000,000	£30,000,000
Profit After Tax	£90,000,000	£90,000,000	£90,000,000	£90,000,000	£90,000,000	£90,000,000
Dividends	£45,000,000	£45,000,000	£45,000,000	£45,000,000	£45,000,000	£45,000,000
Reserves	£45,000,000	£45,000,000	£45,000,000	£45,000,000	£45,000,000	£45,000,000

Fig. 10-11: Great Western Railway (1991-92)

It would be wrong to assume that agreed terms and conditions should be contained in the agreement because most members' perceptions of the terms and conditions should be shared.

It is very important that the agreement not be presented as something set in stone. If an agreement is reached, the project should be very careful about doing additional work.

Analysis

Analysis of this area involves role utilization and role requirements, personal variable aging, and liquidity rate analysis, which was discussed in Chapter 8.

PERSONNEL ADMINISTRATION

Personnel administration is an important part of the control system. It includes hiring and training competent people, which requires a formal program of personnel development.

It should provide a reasonable compensation package, plus a plan must have external parity of pay levels to low pay jobs are compared with similar jobs in the community and/or industry.

There must be, as well, internal parity—pay differentials must reflect different responsibilities. Figure 11-21 shows a major wage and salary relationship per range. This is an excellent way of establishing parity.

Personnel Plans

Personnel policies is a major portion of every project's controllability system. In addition to wage and salary administration, we use the technique of budgeted, or authorized positions, which are set in a study, as shown in Figure 11-22 as a personnel administration.

The wage and salary administration plan controls the cost per person. The authorized positions control the number of people.

Figure 11-23, the budgetary administration Line diagram, controls indirect and non-changeable items. The project weekly and monthly, by each range, it simply shows where the budgeted position are spending their time. Where the changeable non-changeable rates fall below budget, the supervisor should meet to set up, and take corrective action.

Controlling Cost

Payroll Administration and controls are an important part of the

action. But, there are no action that we will not elaborate on them.
Analysis:

We believe that you have should reflect performance. Therefore, we have developed an employee evaluation program. There are two members of personnel using them from which to choose.

It is very important that you are concerned with employees, point
highest level of evaluation and explaining how they can improve their
performance. They must also give recognition for good performance.

EXPENSE CONTROL

Expense levels must be related to volume levels. When volume rises, variable expenses will follow. When important, when volume declines, management must be sure that expenses are also reduced.

Expense control requires the assignment of responsibility for cost to a specific individual who knows what is being spent, and why. Every expense is required to provide a benefit or return. If the manager does not understand the benefit that must justify the expense, he cannot continuously evaluate its necessity, or exercise good judgment in controlling it as circumstances change.

Expense falls into one of three categories:

- Essential
- Marginal
- Unnecessary

You must know the essential, and it should not be difficult to eliminate the unnecessary. It is the marginal group that requires the judgment. The difference between profit and loss often can result from the way management handles the marginal expense item. As a rule, there are more things that would be "nice to have," but this is where discipline plays a part. Management must be conscientious in trying within its means, a condition that normally can be accomplished by a good budgeting program.

Expense control also requires attention before items are purchased. To get the best buy, good management knows to buy aggressively— from the right suppliers and to the right companies relative to needs. This is applicable to personnel costs as well, but a good wage and salary administration plan that includes photographs, salary ranges and performance ratings will help to ensure that compensation is fair and not excessive.

John Ewing Plummer

Exposures often show payroll accountants that they have purchased under systems. Because there are many times when the cost of a purchase order is inconvenient, installing a purchase order control system requires and effort that the benefits are many. The main effort of having to account the purchase is writing signatures for transactions, and discouraging casual buying.

There also are security advantages in signed purchase orders in that they reduce the probability of fraud. But, most important, the system forces the buyers into a better understanding of their buying, and produces a record that strengthens the collection of cost data.

Figure 10-14 shows the purchase order system used at The Williams-Sonnet Farm. The first simply lists the orders issued, and provides such requirements resulting from them.

The second is a management tool that compares the actual purchase order to the budget of the buyer's department. The budget is specific rates, but is altered and can take appropriate action.

Summary

Now by product of the books of record at the end of the month we get Figure 10-15, which compares actual expenses to the budget in each center, and compares the labor rates.

Finally, in order to evaluate pricing, we go back to the variance analysis report discussed earlier in this chapter. This table tells how much of the reports by job, and in response, there is provided the expense shown in Figure 10-16. This tells all of the picture, a month for the specific center.

The variance analysis provides the development of departmental income statements, as discussed in chapter 20.

Expense Control Plans

With the beginning of the revision of PMA, we develop the definition of expense control by plant to reflect current conditions.

Plant I represents the regular physical expense control in varying buying what is being spent, continuously evaluating the buying, maintaining credit buying practices, and conforming to the budget and actual volumes.

Plant II adds to the above the requirement that all expenses be authorized and approved in the department. Every transaction is recorded in their long-term records, but do not contribute to current

1	1	1	1
2	1	2	1
3	1	3	1
4	1	4	1
5	1	5	1
6	1	6	1
7	1	7	1
8	1	8	1
9	1	9	1
10	1	10	1
11	1	11	1
12	1	12	1
13	1	13	1
14	1	14	1
15	1	15	1
16	1	16	1
17	1	17	1
18	1	18	1
19	1	19	1
20	1	20	1
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94	1	94	1
95	1	95	1
96	1	96	1
97	1	97	1
98	1	98	1
99	1	99	1
100	1	100	1



1776

July 4th - Declaration of Independence

September 26th - Constitution signed

October 3rd - End of the year

1777

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

1778

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

1779

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

1780

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

1781

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

1782

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

1783

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

1784

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

1785

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

1786

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

1787

September 26th - Constitution signed

October 3rd - End of the year

October 3rd - End of the year

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185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 | 1016 | 1017 | 1018 | 1019 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1027 | 1028 | 1029 | 1030 | 1031 | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 | 1042 | 1043 | 1044 | 1045 | 1046 | 1047 | 1048 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054 | 1055 | 1056 | 1057 | 1058 | 1059 | 1060 | 1061 | 1062 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 | 1069 | 1070 | 1071 | 1072 | 1073 | 1074 | 1075 | 1076 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 | 1083 | 1084 | 1085 | 1086 | 1087 | 1088 | 1089 | 1090 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 | 1097 | 1098 | 1099 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 | 1129 | 1130 | 1131 | 1132 | 1133 | 1134 | 1135 | 1136 | 1137 | 1138 | 1139 | 1140 | 1141 | 1142 | 1143 | 1144 | 1145 | 1146 | 1147 | 1148 | 1149 | 1150 | 1151 | 1152 | 1153 | 1154 | 1155 | 1156 | 1157 | 1158 | 1159 | 1160 | 1161 | 1162 | 1163 | 1164 | 1165 | 1166 | 1167 | 1168 | 1169 | 1170 | 1171 | 1172 | 1173 | 1174 | 1175 | 1176 | 1177 | 1178 | 1179 | 1180 | 1181 | 1182 | 1183 | 1184 | 1185 | 1186 | 1187 | 1188 | 1189 | 1190 | 1191 | 1192 | 1193 | 1194 | 1195 | 1196 | 1197 | 1198 | 1199 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 | 1226 | 1227 | 1228 | 1229 | 1230 | 1231 | 1232 | 1233 | 1234 | 1235 | 1236 | 1237 | 1238 | 1239 | 1240 | 1241 | 1242 | 1243 | 1244 | 1245 | 1246 | 1247 | 1248 | 1249 | 1250 | 1251 | 1252 | 1253 | 1254 | 1255 | 1256 | 1257 | 1258 | 1259 | 1260 | 1261 | 1262 | 1263 | 1264 | 1265 | 1266 | 1267 | 1268 | 1269 | 1270 | 1271 | 1272 | 1273 | 1274 | 1275 | 1276 | 1277 | 1278 | 1279 | 1280 | 1281 | 1282 | 1283 | 1284 | 1285 | 1286 | 1287 | 1288 | 1289 | 1290 | 1291 | 1292 | 1293 | 1294 | 1295 | 1296 | 1297 | 1298 | 1299 | 1300 | 1301 | 1302 | 1303 | 1304 | 1305 | 1306 | 1307 | 1308 | 1309 | 1310 | 1311 | 1312 | 1313 | 1314 | 1315 | 1316 | 1317 | 1318 | 1319 | 1320 | 1321 | 1322 | 1323 | 1324 | 1325 | 1326 | 1327 | 1328 | 1329 | 1330 | 1331 | 1332 | 1333 | 1334 | 1335 | 1336 | 1337 | 1338 | 1339 | 1340 | 1341 | 1342 | 1343 | 1344 | 1345 | 1346 | 1347 | 1348 | 1349 | 1350 | 1351 | 1352 | 1353 | 1354 | 1355 | 1356 | 1357 | 1358 | 1359 | 1360 | 1361 | 1362 | 1363 | 1364 | 1365 | 1366 | 1367 | 1368 | 1369 | 1370 | 1371 | 1372 | 1373 | 1374 | 1375 | 1376 | 1377 | 1378 | 1379 | 1380 | 1381 | 1382 | 1383 | 1384 | 1385 | 1386 | 1387 | 1388 | 1389 | 1390 | 1391 | 1392 | 1393 | 1394 | 1395 | 1396 | 1397 | 1398 | 1399 | 1400 | 1401 | 1402 | 1403 | 1404 | 1405 | 1406 | 1407 | 1408 | 1409 | 1410 | 1411 | 1412 | 1413 | 1414 | 1415 | 1416 | 1417 | 1418 | 1419 | 1420 | 1421 | 1422 | 1423 | 1424 | 1425 | 1426 | 1427 | 1428 | 1429 | 1430 | 1431 | 1432 | 1433 | 1434 | 1435 | 1436 | 1437 | 1438 | 1439 | 1440 | 1441 | 1442 | 1443 | 1444 | 1445 | 1446 | 1447 | 1448 | 1449 | 1450 | 1451 | 1452 | 1453 | 1454 | 1455 | 1456 | 1457 | 1458 | 1459 | 1460 | 1461 | 1462 | 1463 | 1464 | 1465 | 1466 | 1467 | 1468 | 1469 | 1470 | 1471 | 1472 | 1473 | 1474 | 1475 | 1476 | 1477 | 1478 | 1479 | 1480 | 1481 | 1482 | 1483 | 1484 | 1485 | 1486 | 1487 | 1488 | 1489 | 1490 | 1491 | 1492 | 1493 | 1494 | 1495 | 1496 | 1497 | 1498 | 149 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-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profits. Good examples include, asset based, asset advertising, cash expenditures for debentures that don't cost for limited periods without those things.

Phase II also means more reliance on top jobs, and the collection of employees through normal activities. When instituted early enough, a Phase II program can significantly improve a company's ability to maintain a record.

Phase III involves controls, the degree of which must be consistent with the severity of the economic situation. It must ensure that the company's capital is not impaired through large operating losses.

FIXED ASSET MANAGEMENT

The management control system must also address itself to fixed asset management. Inefficient use of assets will reduce the return on investment as quickly as will low profits.

Fixed asset management begins with the research and development program that keeps management abreast of the technological developments in the area that eventually is potentially affect it.

Initial acquisition of fixed assets must be based upon market analysis decisions that are consistent with long range plans and product policy.

Each investment should be economically justified utilizing a Return on Investment analysis.

Effective maintenance, including formal preventive maintenance programs are an important part of efficiency measures and in prolonging the life of the equipment.

A fixed asset ledger is very helpful in keeping track of assets, and distributing their costs accurately.

SUMMARY

After the planning has been completed, management is faced with the task of executing the plan—producing the results, or “getting the job done.” This requires the constant feedback of information so results may be evaluated relative to the plan. This is the prime function of the management control system.

This chapter outlines a number of control techniques, dividing them into two categories—that of evaluating the profitability and production predictability. Profitability ratios are pricing, controll-

stency. Both *Control* and *Productivity* measures enhance and represent cost-
fall as well as efficiency.

The whole concept of control is embodied in the thought that management must know what is required, and what is actually happening—in order that the two can be compared. If there is a deviation, there must be the knowledge and judgment to enable management to act appropriately.

FINANCIAL STATEMENTS:

Analytic Tools

Financial statements, with their dry historic figures, are often used as minimal tools for decisions. But nothing could be further from the truth. Critical analysis of these statements constitutes one of the most effective diagnostic tools available to the manager, as well as problems and trends that are crucial to the financial health of a company.

It is extremely important that management have available to it accurately prepared, timely and logically organized financial statements, and that managers make the effort to study and understand them.

There are three primary financial statements:

1. The Income Statement
2. The Balance Sheet
3. Assets and Application of Funds

The Income Statement, which is a report of profitability for a specific period of time, systematically presents a company's revenues, expenses, non-operating charges and credits, and income (loss) and net profit. The net profit for the period is identical to the retained earnings account of the balance sheet at the end of the accounting period.

The balance sheet, which is a statement of the financial position of the firm at a given moment—the same as the closing date of the income statement—is based on the formula:

$$\text{Assets} = \text{Liabilities plus Owner's Equity}$$

The assets are systematically presented on the left-hand side of the balance sheet, the liabilities and owner's equity are placed on the

right-hand side, owner's equity is also reduced when net results, as an equity account, is included paid as capital as well as the related savings from operations.

The Income and Applications statement continues the income statement with the changes in the balance sheet during the period to show the funds flow for the period. All the many variations of funds flow statements, we prefer the one that focuses on which all activity has been summarized in terms of its impact on cash.

Cost accounting is critical to the importance of cash objectives. It places primary emphasis on the liquidity or financial strength of an operation, which is like the largest cash-inclusion system in the business. Cash begins when the cash stops flowing, the operation dies. In the short run, cash problems can be handled by liquidating assets or borrowing, but there are only short-term treatments. They do not cure the basic illness. Therefore, early signs of potential problems come whenever the cash position begins to tighten. If the signs are not heeded, as if the company becomes too dependent on short-term resources, success or failure the strong will run out. Consequently, we are attracted to a financial statement that discloses the nature of the cash flow.

Supporting Periods

Most business operations are on-going with no definite ending or break points. The exceptions are project-oriented businesses—a construction building a bridge, for instance. Consequently, accounting requires the use of arbitrary definitions of time or months for financial reporting needs. Presumably, the year has been accepted as the basic accounting period, with longer periods considered inadequate. However, information is not generated frequently enough. Shorter periods may be desired for good or bad by several functions, or individual detailed periods.

The Fiscal Year

Many businessmen arrived at the arbitrary year as the basic fiscal period, simply as a matter of convenience. Others have selected fiscal years that more closely coincide with their natural business year—the one that ends when business is at the lowest point in the calendar year. The income statement is then a complete annual cycle, the balance sheet as of this date shows the company's present and regular needs, at other points in the yearly cycle, the company may have special requirements.

Interim Reports

Management that depends on financial statements may quickly find that it must have a continuous flow of financial data during the year. It cannot operate very effectively without knowing how things are going, and what its most financial problems are.

The economist that compiles financial statements—income statements, balance sheets and cash flow—has acquired knowledge to put that management to analyze performance and review the financial condition of the firm four times a year.

In addition, income statements should be prepared monthly. The report in the most financial statements, it is not necessary to prepare the balance sheet and cash flow this often—because the financial condition of the firm usually will not drastically change in so short a period of time. The most frequent lack of the income statement is helped in that it will help to keep management performance and alert to trends and profit problems.

Accounting or Management Reports

The format of the financial statements must conform to generally accepted accounting practices for the statements are used for external purposes. Every company should have an annual external statement prepared by a certified public accountant.

Management has more latitude in the format of its internal statements. We have experimented with a number of them, finding those that are simple and correct, yet comprehensive. The idea was not statements to highlight the significant economic events occurring in our operation. Note that the financial statements illustrated and discussed in this chapter are intended as internal management reports, and may not be completely acceptable for external use.

Account vs. Cash Basis

We recommend that every operating company, even the smallest, keep its books on the accrual method when reporting internal affairs each time, a method which recognizes transactions only when negotiated obligations are actually earned, in the operating business, sales, returns, sales, bank sales and purchases, more on credit. Unless the accrual method is used to reflect transactions when they occur, instead of waiting until cash changes hands, the financial statements never will reflect the true economic activity of the period or the actual financial condition of the business.

THE INCOME STATEMENT

Readings

Appendix 1 is the sample statement in Figure 28-1, recommended (these readings) Budget Actual This Year and Actual Last Year, each of which shows the dollar amount and percentages. The reader will understand that they are considered hypothetical and tend to differ in the future.

Actual This Year gives the absolute figure, but the current partial comparison to Budget indicates how operations are progressing relative to the current Profit Plan. Deviations should be analyzed to determine problems, and to find sound solutions.

Comparison of Actual This Year to Actual Last Year shows trends.

The use of percentages is important, because of the impact of margins. When revenues change, expense levels should also change, since a proportion relationship exists. Changes in the margins are just as significant as the changes in the revenue and expense levels themselves.

Notes

The first figure on the income statement represents, first, Sales—revenues generated by the business for the accounting period.

Costs taken include freight, postage and other miscellaneous additional charges to customers added by selected expenses. If there are increases by appropriate charges to customers, such charges do not impact the profitability of the operation. Therefore, in a statement income statement, we suggest they be ignored for the sake of simplicity.

Expenses be recorded in several two major categories: maintaining the books on the usual method. The first and recommended way is the computerized method. Normally, the customer does not pay the prices anything outside the standard budgeted price for price factors it usually is difficult to precisely compare the amount used. Therefore, it is better to show maintaining the transactions as a unit which is completed. Inevitably, work is needed until completion is a unit in terms of quantity received.

The alternative is to use a percentage comparison approach for differing sales. In this approach, at the end of each accounting period the work in progress is analyzed, and some method of determining the ultimate expense is used in order to a figure indicating a sales for the period. It is known of no practical way to precisely compare the sales

value of selling work in progress, and for that reason we do not recommend its use by most publishers.

The net sales figure should be the netted selling price of all jobs booked during the period. It is not the figure on which allowances are computed in the percentage solution.

NET SALES

Net Sales is reported at the Actual Selling Price (ASP) of the jobs included. It is very important to monitor the relationship of the ASP to the Target Selling Price (TSP) for that work.

This can be done on the income statement by adding one line above the Net Sales figure:

| | Favorable
Variance | Unfavorable
Variance |
|---|-----------------------|-------------------------|
| Target Selling Price | | |
| Favorable/unfavorable
allowance variance | -\$1.5
(\$1.5) | \$4.55
(\$4.55) |
| Actual Net Sales | | |

We do not place this information on the income statement itself because we want to keep the statement simple, and we can track the ratio in our sales analysis procedure.

In the sample statement, TSP is computed by multiplying the actual hours worked on each job by the standard TSP time factor. The variance may be attributed to either pricing or efficiency, with further analysis necessary to determine which is correct.

A better approach is to compare the TSP by converting the standard hours for each job by the standard TSP factor. This would mean that any variance would be attributable to pricing. The difference between standard hours and actual hours would represent the efficiency variance.

The problem with this approach is that very few printers have the ability to accurately measure and report standard hours on all work. Where this is possible, we prefer to use standard hours. We have found that developing a sound standards program takes several years, and to reverse the actual hours approach is an inferior method while we develop the more sophisticated capability.

Cost of Sales

The three methods and Change Orders related to the jobs billed during the period—the jobs included in the net sales figure—are shown at this point. Materials and outside services produced during

disputed) reflects material better than standard accounted for, thereby enabling the completion of the job in which they apply.

Conversion Factor Added to Rule

This figure is derived by subtracting the three standard-cost/standard hours from list sales, which we think is a more meaningful indicator of volume than the net sales figure.

Notes on conversion: The converted expense ratio is more state-specific; probability depends on the effective utilization of that capacity. Materials and outside purchases do not reflect capacity utilization. In many companies, non-customers supply materials such as paper, or outside services such as order operations, transportation, finishing. For other customers, the printer may supply these materials and services. It is usually a matter of responsibility in conversion ratios who the supplier is.

When the printer/seller supplies the markup should reflect his costs and the value of his services. If the markup is arbitrarily excessive, he pays the risk of shifting away otherwise profitable conversion volume.

If the materials or subcontracted services represent an important partial operation (a print structure), he should recognize that he actually is in two businesses, a conversion operation and a distribution one. There is nothing wrong with this provided that the first is recognized, and cost operation is not used to subsidize the other.

Cost of Rule as Standard Manufacturing Rate

This represents the conversion costs of the job, divided relative to the standard manufacturing rate level.

Here again we are dealing with actual hours extended at standard hourly rates, while the previous approach would have used the cost of actual standard hours. The difference between the actual hours and the standard hours is an efficiency variance reflected in the income statement in the period in which the work actually is performed. Figure 2(a) illustrates an income statement format reflecting standard hour valuations.

For the reader familiar with accounting, the Cost of Rule as Standard Manufacturing Rate is the ratio of work-in-process increments. It is the credit entry to the work-in-process account, and the debit entry to the cost of sales account.

Gross Profit as Standard Manufacturing Rate

This figure, which is derived by subtracting the cost of sales (after

[illegible]

ideal manufacturing rates from the standard rates added to sales, indicates the manufacturing profit on jobs actually shipped.

Manufacturing Expense Variance as Corrected Actual Production Volume

The only part of understanding a printer's income statement refers to the fact that sales, shown above, that he ships in a given month actually coincide with the work actually performed. His production algorithm always includes work in process. He never will include work performed in prior periods that was work in process at the beginning of the current period, as well as work performed in the period. There is little else that one worked on during the period that are not shipped, but are carried over in work in process.

This income work in process, for the accounting, the difficulty in the accounting period is solved by extending the actual hours for the standard manufacturing rates—the same rates used to solve inventory, as described earlier.

Absorption Variance

In various employing standard hour rates, the absorption variance is always a problem. The standard hour rates are computed on the basis of budgeted hours and expense levels. Sales and the actual hours worked, when extended by the standard hour rates, produce a figure nearly equal to actual expenses incurred. The difference is an absorption variance due to the modification of expense and volume variances. It must be reflected in the income statement for the period, either it equal to get into inventory.

The absorption variance, when subtracted from or added to the Cost, Profit or Standard Manufacturing Rate, produces the actual Cost, Profit for the period.

We mentioned that the absorption variance be computed at two levels—O&P expenses and the manufacturing overhead. We know that the predominant amount of manufacturing overheads are fixed and therefore cannot be reduced in the short term to reflect fluctuations in volume levels. O&P expenses are much more sensitive to volume changes.

Looking at Figure 10-1, you will note that the value of production at both levels were substantially below budget, indicating a volume problem for the month. Management was able to significantly cut fixed O&P expenses to come in substantially under budget, although not enough to offset the whole volume problem.

Actual Gross Profit

The actual Gross Profit is the gross profit of statistical assignments collected for the period, minus the total, hypothetical volumes.

The probability of a company for a period is dependent on two things—the gross profit margin indicating the probability of the work shipped, and the absolute dollar amounts, indicating, not only satisfactory margins but adequate volumes.

Returning to Figure 20-1, we see a gross profit at standard of 24.8 percent on shipments, which indicates favorable product mix, price and, in other way, when compared to the budget of 20.4 percent. Total sales were close to what was budgeted, but the improved margins resulted in an almost 200,000 increase in the Gross Profit on ship-ments.

The problem in the particular month concerning the production cost that in which month volume problems caused gross profits to be provided by an absorption-costing alternative. But another way, had the production volumes and expense controls resulted in an absolute rise of actual expenses for the month, profit conditions would be different.

The profit structure for a period indicates the percentage cost ratio following four conditions:

- The Ideal: High Shipments and Good Absorption
- Strong: High Shipments and Poor Absorption
- Weak: Low Shipments and Good Absorption
- The Worst: Low Shipments and Poor Absorption

The probability of a period to have no shipment volume, no profit lost, and the effects of production absorption. Traditional income statement formats do not highlight the behavior of these critical variables, because they act probabilities of shipments, and the absorption-costing volume ratio can have radical change in a few percentage increments. The prime advantage of the suggested format is that it clearly segregates the variables so that the factors at work can be easily identified and reexamined.

The layout of the systems of format is traditional and does not require special treatment.

Percentage Income Statement

Periodically, and at least annually, every planning firm should make a detailed analysis of the nature of its income statement, as shown in Figure 20-1, which are the formats used in the PMA case studies.

Appendix 1: Financial Statements for the Year 2023

| | Income Statement | | Balance Sheet | |
|------------------------|------------------|----------|---------------|-------------|
| | 2023 | | 2023 | |
| | Revenue | Expenses | Assets | Liabilities |
| Revenue | | | | |
| Operating Revenue | 100.00 | | | |
| Non-Operating Revenue | 5.00 | | | |
| Expenses | | | | |
| Operating Expenses | | 80.00 | | |
| Non-Operating Expenses | | 15.00 | | |
| Profit | | | | |
| Operating Profit | 20.00 | | | |
| Non-Operating Profit | 5.00 | | | |
| Assets | | | | |
| Current Assets | | | 100.00 | |
| Fixed Assets | | | 5.00 | |
| Liabilities | | | | |
| Current Liabilities | | | | 85.00 |
| Fixed Liabilities | | | | 10.00 |
| Equity | | | | |
| Shareholders' Equity | | | | 20.00 |
| Reserves | | | | 5.00 |

Fig. 1: Financial Statements for the Year 2023

Financial statements for the year 2023, showing revenue, expenses, profit, assets, liabilities, and equity.

Operating Expenses

| | 2014-2015
\$0.00 | | 2014-2015
\$0.00 | |
|---|---------------------|---------------------|---------------------|---------------------|
| | 2014-2015
\$0.00 | 2014-2015
\$0.00 | 2014-2015
\$0.00 | 2014-2015
\$0.00 |
| Operating Expenses: | | | | |
| Salaries - operating | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - admin | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - sales, advertising, travel | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - printing and office expenses | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - other | 10,000 | 10,000 | 10,000 | 10,000 |
| Operating Expenses | 50,000 | 50,000 | 50,000 | 50,000 |
| Total Operating Expenses | 50,000 | 50,000 | 50,000 | 50,000 |

Operating Expenses

| | 2014-2015
\$0.00 | | 2014-2015
\$0.00 | |
|---|---------------------|---------------------|---------------------|---------------------|
| | 2014-2015
\$0.00 | 2014-2015
\$0.00 | 2014-2015
\$0.00 | 2014-2015
\$0.00 |
| Operating Expenses: | | | | |
| Salaries - operating | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - admin and support | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - sales, advertising, travel | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - printing and office expenses | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - other | 10,000 | 10,000 | 10,000 | 10,000 |
| Operating Expenses | 50,000 | 50,000 | 50,000 | 50,000 |
| Total Operating Expenses | 50,000 | 50,000 | 50,000 | 50,000 |

Other Expenses

| | 2014-2015
\$0.00 | | 2014-2015
\$0.00 | |
|---|---------------------|---------------------|---------------------|---------------------|
| | 2014-2015
\$0.00 | 2014-2015
\$0.00 | 2014-2015
\$0.00 | 2014-2015
\$0.00 |
| Other Expenses: | | | | |
| Salaries - operating and support | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - printing and office expenses | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - sales, advertising, travel | 10,000 | 10,000 | 10,000 | 10,000 |
| Other Expenses | 30,000 | 30,000 | 30,000 | 30,000 |
| Total Other Expenses | 30,000 | 30,000 | 30,000 | 30,000 |

Administrative Expenses

| | 2014-2015
\$0.00 | | 2014-2015
\$0.00 | |
|---|---------------------|---------------------|---------------------|---------------------|
| | 2014-2015
\$0.00 | 2014-2015
\$0.00 | 2014-2015
\$0.00 | 2014-2015
\$0.00 |
| Administrative Expenses: | | | | |
| Salaries - operating | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - admin | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - sales | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - printing and office expenses | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - other | 10,000 | 10,000 | 10,000 | 10,000 |
| Administrative Expenses | 50,000 | 50,000 | 50,000 | 50,000 |
| Total Administrative Expenses | 50,000 | 50,000 | 50,000 | 50,000 |

Other Expenses

| | 2014-2015
\$0.00 | | 2014-2015
\$0.00 | |
|---|---------------------|---------------------|---------------------|---------------------|
| | 2014-2015
\$0.00 | 2014-2015
\$0.00 | 2014-2015
\$0.00 | 2014-2015
\$0.00 |
| Other Expenses: | | | | |
| Salaries - operating and support | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - printing and office expenses | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - sales, advertising, travel | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - other | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries - printing and office expenses | 10,000 | 10,000 | 10,000 | 10,000 |
| Other Expenses | 50,000 | 50,000 | 50,000 | 50,000 |
| Total Other Expenses | 50,000 | 50,000 | 50,000 | 50,000 |

Fig. 10-11 Operating Expenses for Percentage Income Statement

Assumes the 2014-2015 data from the 2014-2015 operating statement is correct.

Trend Analysis

The use of time series in the form of comparisons will be extremely helpful in spotting and understanding trends, which are the net result of the constantly changing operating business. Unfavorable trends indicate the existence of underlying unfavorable factors which must be noted and corrected.

A trend normally continues until disrupted by a counter force. Therefore, unfavorable trends which generate an appropriate reaction can produce very serious problems. Even though the absolute problems may not be critical at the moment, management should take advantage of its present strong condition and establish time to react to early warning signals provided by trends.

Conversely, of course, favorable trends can give management a needed feeling of confidence and assurance.

Industry Comparison

Financial Research's industry availability of very good industry profile data from the F14 Ratio Studies. While comparisons may have great qualifications, because no two firms are identical, some general observations may be drawn from looking at the figures.

Percentage of Conversion

One of the biggest problems in using the F14 ratio figures is the wide range of percent integrations existing between firms. Some companies have a great deal of outside conversion, while others are much more fully integrated.

Using conversion rates added on the basis for comparison, reflect that sales, cost, and substantially different pictures. Therefore, this also should be studied.

Departmental Statements

One of the most important techniques is the substitution of income statements and balance sheets into departmental and/or into profit centers. This technique permits the isolation of profitability to small segments of the business, so that much support can be made to every field.

The format is the same as that shown in Figure 23-1, with the data applicable to the particular department.

THE BALANCE SHEET

We mentioned that, at least quarterly, an income balance sheet be prepared. We mentioned a particular format. The only item that might be considered a departure from convention is the *Profit Reserve*, used for comparative purposes.

By this time readers should be fully aware of the importance of planning the annual Profit Plan. By routinely comparing actual conditions to the Plan, potential problems may be spotted and dealt with before they become serious.

Analysis of the Balance Sheet must place emphasis on two key considerations—asset management and capital structure. The asset management focuses on the four key variables discussed in detail in Chapter 11:

Cash Management—the mechanical problem of maintaining the amount of idle monies—cash in the bank account, and all having the same or most obligations on this point—the.

Accounts Receivable—the task of controlling the amount of credit, managing collections, and dealing with bad debts. Many companies recognize how getting into accounts receivable because of poor credit management.

Inventory—these problems must be managed so as to maintain the minimum investment necessary to keep the operation running efficiently.

Fixed Assets—these are not subject to frequent changes, and need to be reviewed only to ensure that changes are consistent with the capital budget.

Efficient asset management minimizes the investment. Therefore, the reduction of asset requirements can be important to improving the Return on Investment as a financial goal.

In view of the income statement, we suggest that the use of percentage budget charts compared to P/E ratios, as shown in Figure 12.1, can be helpful in identifying problems and trends.

The category of the capital structure is best covered in Chapter 12. It is the other important consideration in business chart analysis. The liquidity ratio and financial strength ratios discussed previously are reflected in the Profit Plan Comparison of actual to the Plan should be made to ensure that the Plan is being met.

PERCENTAGE BALANCE SHEET

2000000

**ALL PERCENT
FIGURES IN BALANCE**

CURRENT ASSETS

| | 2000 | 2000 |
|-----------------------------|---------------|---------------|
| Cash | 25.00 | 25.00 |
| Receivables | 25.00 | 25.00 |
| Inventory | 25.00 | 25.00 |
| Other current assets | 25.00 | 25.00 |
| TOTAL CURRENT ASSETS | 100.00 | 100.00 |

FIXED ASSETS

| | | |
|--|---------------|---------------|
| Machinery, equipment, vehicles and other | 75.00 | 75.00 |
| Less Accumulated Depreciation | 25.00 | 25.00 |
| NET FIXED ASSETS | 50.00 | 50.00 |
| OF BALANCE SHEET | 100.00 | 100.00 |
| TOTAL ASSETS | 100.00 | 100.00 |

LIABILITIES AND EQUITY

CURRENT LIABILITIES:

| | | |
|----------------------------------|---------------|---------------|
| Notes payable | 75.00 | 75.00 |
| Accounts payable | 25.00 | 25.00 |
| Other liabilities | 0.00 | 0.00 |
| TOTAL CURRENT LIABILITIES | 100.00 | 100.00 |

| | | |
|------------------------------|---------------|---------------|
| LONG TERM LIABILITIES | 0.00 | 0.00 |
| TOTAL LIABILITIES | 100.00 | 100.00 |

| | | |
|--|-------------|-------------|
| SHAREHOLDERS' AND PROPRIETORS' EQUITY | 0.00 | 0.00 |
| TOTAL LONG TERM EQUITY | 0.00 | 0.00 |

Fig. 100, Percentage Balance Sheet

Reproduced from the 1950-51 Year Book of the American Institute of Accountants, Inc.

The cash flow statement is useful because it is the mirror of the income statement and the balance sheet, translating the cost of all the company's activity into the impact on the cash account. If company operating at a cash deficit must have help.

The structure of cash flow statement is shown in Figure 10-5.

Cash Generated From Operations

Before cash flows out for the period (before interest and income taxes, and non-cash charges like depreciation and amortization), and the result is the cash operating profit, generated from operations.

In another dimension of operations—cost management—if operating costs are kept under control and expenditures increased, there is potential cash. If they increased, there could have been losses in cash.

Changes in these operating figures are related due to changes in the amount and type of business. It may have subsidiaries. The net effect of changes in the operating cost and requirements, affects income which changes in cash (profit) produce the cash requirements for the operating capital. It is the requirements that produce cashflow but a rapidly growing firm, particularly in technology periods.

The operating capital requirements, when combined with the cash generated from sales, produce the cash generated from operations. When this is a deficit, again, a company is in severe trouble. If it is a healthy company, most other capital structure problems can be worked out.

The cash generated from operations is the foundation of the financial health of a company.

Division of Income

Every company has three potential partners—the owners, the creditors who have loaned them money, and the government—that has their profits.

The first slice of the profit goes to the creditors in the form of interest payments. It is the first slice of the profits. Then the government takes a slice in the form of income taxes, followed by the creditors who want their share in the form of repayment of the debt. If anything is left, the owners may, if they desire, take out the dividend.

When these capital obligations are subtracted from the cash generated from operations, the result represents uncommitted cash.

2022 STATE BUDGET

1. STATE DEPARTMENT OF REVENUE:

| | | |
|---|------------|------------|
| Net Available State Funds (Federal & State) | \$ 100,000 | |
| Less: State Budget (Operating Expenses, etc.) | (100,000) | |
| Balance Available (Operating Expenses, etc.) | \$ 100,000 | |
| Less: State Budget (Operating Expenses, etc.) | (100,000) | |
| State Budget (Operating Expenses, etc.) | \$ 100,000 | \$ 100,000 |

2. STATE DEPARTMENT OF REVENUE:

| | | |
|---|------------|------------|
| General Revenue (Net of Revenue Fund) | \$ 100,000 | |
| Less: State Budget (Operating Expenses, etc.) | (100,000) | |
| Balance Available (Operating Expenses, etc.) | \$ 100,000 | |
| Less: State Budget (Operating Expenses, etc.) | (100,000) | |
| State Budget (Operating Expenses, etc.) | \$ 100,000 | \$ 100,000 |

3. STATE DEPARTMENT OF REVENUE:

| | | |
|---|------------|------------|
| State Budget (Operating Expenses, etc.) | \$ 100,000 | |
| Less: State Budget (Operating Expenses, etc.) | (100,000) | |
| Balance Available (Operating Expenses, etc.) | \$ 100,000 | \$ 100,000 |
| State Budget (Operating Expenses, etc.) | \$ 100,000 | \$ 100,000 |

4. STATE DEPARTMENT OF REVENUE:

| | | |
|---|------------|------------|
| Revenue | \$ 100,000 | |
| Less: State Budget (Operating Expenses, etc.) | (100,000) | |
| Balance Available (Operating Expenses, etc.) | \$ 100,000 | \$ 100,000 |
| State Budget (Operating Expenses, etc.) | \$ 100,000 | \$ 100,000 |

5. STATE DEPARTMENT OF REVENUE:

| | | |
|---|------------|------------|
| Revenue | \$ 100,000 | |
| Less: State Budget (Operating Expenses, etc.) | (100,000) | |
| Balance Available (Operating Expenses, etc.) | \$ 100,000 | \$ 100,000 |
| State Budget (Operating Expenses, etc.) | \$ 100,000 | \$ 100,000 |

a company with both its assets and liabilities more diversified than a company which has heavily mortgaged its future, committing its operations more almost in every other respect. That is another area in which more sensible companies have made very serious mistakes—having taken onfold obligations far in excess of what they could reasonably expect to handle.

Basic Requirements for Expansion or Replacement

A company must spend much to expand its facilities or to replace worn-out, obsolete equipment. It may even choose to buy another company. If it is overloading its assets, if there is fold credit, getting into trouble.

Obviously, the faster a company grows, the more cash it will need for equipment and plant. If there are fold credit, the company must have a rational estimate of cash.

There can be additional debt (mortgaging future operations) but this is not a good idea. It is better to have a rational estimate of the amount of the loan, and to make sure that the capital structure is not too heavy. This is discussed in Chapter 5.

THE USE OF MONEY

Several years ago, while reading an issue of *Business Week*, I started thinking about their magazine report on economic activity. Figure 10-1, including a graph and some numbers, is a summary. If we look at the collection of a company as a micro-economy, I was amazed, who can't we think of the company as a micro-economy? It is a company, who can't we think of the company as a micro-economy? It is a company, who can't we think of the company as a micro-economy?

The summary of economic activity is graphed, and this can be extended to include both dollar and non-dollar measures. We go back to our profit sheet to check the components that contribute to profitability—costs, prices, expenses and efficiency.

We have developed a summary of statistics that are available weekly and monthly, some of which are shown in Figure 10-1.

The data themselves are self-explanatory, there may be values, data, and there may be others that we should add. The important thing is to be honest about the capital structure of the data with all members of management. This does two things:

1. **General**a. **General Service**

General Service (GS) is a category of employment in the federal government. It is a broad category that includes all employees who are not in the military, naval, or air force, and who are not in the civil service.

b. **General Service**

General Service (GS) is a category of employment in the federal government. It is a broad category that includes all employees who are not in the military, naval, or air force, and who are not in the civil service.

2. **General**

General Service (GS) is a category of employment in the federal government. It is a broad category that includes all employees who are not in the military, naval, or air force, and who are not in the civil service.

3. **General**

General Service (GS) is a category of employment in the federal government. It is a broad category that includes all employees who are not in the military, naval, or air force, and who are not in the civil service.

4. **General Service**

General Service (GS) is a category of employment in the federal government. It is a broad category that includes all employees who are not in the military, naval, or air force, and who are not in the civil service.

5. **General Service**

General Service (GS) is a category of employment in the federal government. It is a broad category that includes all employees who are not in the military, naval, or air force, and who are not in the civil service.

6. **General Service**

General Service (GS) is a category of employment in the federal government. It is a broad category that includes all employees who are not in the military, naval, or air force, and who are not in the civil service.

General Service (GS) is a category of employment in the federal government. It is a broad category that includes all employees who are not in the military, naval, or air force, and who are not in the civil service.

(1) *Increases an ongoing training exercise that gradually improves all managers' understanding of the company's profit objectives.* This provides managers a broader understanding of their job and location, how their activities contribute to the issues that affect profits, which is what you want them to do.

(2) *Creates an objective performance evaluation.* When results are below target levels, many managers have a tendency to believe in spite that they are part of the problem. By presenting profit performance in objective and factual terms, it becomes difficult to position finger-pointing about whether a problem does exist. Instead, the fact-based framework sets off showing how the problem can be solved—as much as their construction activities.

RETURN ON INVESTMENT ANALYSIS

We have stated many times in the book that the single most important profit criterion is the return on investment. It follows quite logically then that an analysis of financial statements should be complete without reviewing ROI performance.

Figure 10.1 shows how we find an operating ROI—the operating profit before interest and taxes, related to total operating assets. We isolate the two variables in the third formula, profit margin and asset turnover.

| FINANCIAL FORMULA | | |
|---------------------------------|---|-------------------------|
| <u>Profitability Statement:</u> | | |
| Net Income | = | Operating Profit Margin |
| Assets | × | Asset Turnover |
| ROI | = | Return on Investment |
| <u>Profit Margin Statement:</u> | | |
| Operating Profit | = | Operating Profit Margin |
| Total Sales | × | Total Sales to Assets |
| Operating Profit | = | Operating Profit Margin |
| Operating Assets | × | Asset Turnover |
| ROI | = | Return on Investment |

Figure 10.1 Return on Investment analysis

Because of the complexity we place on each firm, we also show the ratio generated from operations as a percent of total assets.

The second ratio (Figure 10.10) is identical, except that, on the one hand, it deals with net profit before taxes and, on the other, it subtracts all debt from total assets, and deals with the equity investment only. This procedure is with Return on Equity.

| <u>Return on Assets</u> | |
|--|---------------------------|
| $\frac{\text{Net profit before taxes}}{\text{Total assets}}$ | = Net profit margin |
| 1 | = Asset turnover |
| $\frac{\text{Net profit}}{\text{Equity}}$ | = Return on Equity |
| <u>Equity Investment Ratio</u> | |
| $\frac{\text{Net profit before taxes}}{\text{Total assets}}$ | = Net profit margin |
| 1 | = Equity investment ratio |
| $\frac{\text{Net profit}}{\text{Equity}}$ | = Return on Equity |

Figure 10.10 Accounting Ratios

This chapter will show clearly the advantages or disadvantages of the leverage used in any given situation.

SUMMARY

Careful analysis of financial statements can provide much meaningful information about the financial health of a company; diligent managers will understand their statements in such a way as to provide the maximum amount of information.

Statistical emphasis should be placed on trend analysis because changes are the result of underlying forces. Careful observation when one is ignored before significant damage has occurred.

There are three basic financial statements:

The Income Statement

The Balance Sheet

The Cash Flow Statement

A Final Word—

It's amusing and touching that the final version of this book is quite different. I, quite naturally, have lost all semblance of objectivity, and am quite certain of that result.

During the Spring of 1978, as we were getting the galley together and preparing large sub-pages, I attended the Annual Conference of the Graphical Communications Computer Association in Boston.

One of the sessions was chaired by Roger Bickman of High American Technologies, Inc. in Lincoln, Nebraska. It was one of the best sessions that I have ever attended. It was an excellent presentation.

It brought back how very little we really know about integrating printing companies, as well as how rapidly many people in the industry are learning. Still, all our accomplishments are still ahead of us.

My last impulse was to rewrite the book. It is absolutely screaming about books it is never published. This thought was discarded because there is still a lot of the problem of being correct in an industry that is changing as rapidly as ours. So, except for some minor adjustments and editing, we decided to clear out this edition, hoping that readers will realize that while we have already stated what we know, that the principles discussed are evolving and should form the base ideas for all management efforts.

It is the techniques that become dated as quickly, and which can and should be improved as our knowledge and experience expands. The techniques described in this book are presented merely as examples, to stimulate interest, and induce understanding.

For look, forward to the coming years in participating in a printing industry that is professionally managed and smoothly profitable.

We will be trying to learn from our colleagues, and are willing to share our ideas in turn. We hope that this book is just one more step in an increasing industry dialogue.

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Postword

For the principles discussed in this work concerning cost, indeed, they should form the foundation for all management information systems development, especially, today, in Third American Enterprise in Lincoln, Nebraska, various business these principles was installed in 1980. In the past time, cost control increased the field. Substantial results must be given to the system for the management results and design is provided.

The digital computer made the efficient functioning of this system at Mid-America and at William Reed Farm and some other printing companies possible. The massive data collection and computational requests could not otherwise be handled. The American Communications Computer Association, A.C.C.A., has been instrumental in inspiring, developing, and promulgating these principles and systems. It deserves much credit for the progress made in this direction by the industry.

Remember that that has made may be considered. So as to bring together an integrated system for control and price analysis that, in one system, gives management a basis for decisions and evaluations. It is essential. This work has improved the administrative function in this subject for the printing industry. The industry is indebted to Wally Hoffman.

But, as Hoffman suggests, what has not done may be even more stirring and rewarding than can be accomplished with this system. After all, the approach here is heavily influenced by accounting concepts with corrections dictated by fixed periodic reporting, cost accumulation, and valuation methods.

Wally says that he believes the studies conducted by the Labor Control and Production Information Committee of IATSE in Boston

in May of 1977 represented the best the industry attended. In looking at the meeting held ahead for printing, management, it seems to have provided a strong feeling of unity. I hope to will never achieve it in the years ahead and consider a similar stride in our industry by attending some of the seminars that are now gathering over our borders. Let me suggest some of them.

The third option is in the volume, *What and How*. The last suggestion of a computer reporting system that would enable this was presented in a paper by Richard Williams (then of Los Angeles Lithograph) at the May meeting of C.I.P.A. in St. Paul in 1977. The reporting concept was modified at John Deere's Workshop in Lincoln, Nebraska, in early 1978. By fall of that year, the refinements being collected suggested that computer to completely effect its operational plan for the work effort presented. As a result, a 1978 gain in production productivity was achieved. Specific results were reported to the industry at the C.I.P.A. fall meeting in Chicago in 1978. Several companies have since adopted the plan and are now reporting similar results.

The November meeting of the C.I.P.A. at Lakeview last 1978 should be marked as an historic occasion for the industry. The presence of Richard Hill revealed a strong call for the printing and publishing industries to do something specific about the environmental issue being discussed. Hill suggested the inspiration for the formation of the Trade Council and Promoting Information Committee. It gives to that report, which is integrated testimony of the fall, 1978, meeting in Boston.

Next, The Way to Water has been declared. Specific action programs are being formulated with the technical help of Bill Sullivan of McKim Hill, Eric Lockart of PA, Jim Foster and George Smith at the Hodge Lithograph, Larry Reed and Neil Hoffmann of IRI, Allen McDonald of IRI, and representatives of a half dozen other companies. Participating companies are already reporting early waste reduction results that are significant with most water use.

RII and PAI are now united the companies using them in a new operations with computer usage. This dualized reporting system will enable inter company data comparisons, inter company productivity and waste improvement, and should provide equivalent knowledge and together with information that will show their trends and development needs. The implications of this cooperation

data collection and reporting on the ultimate development of further automation of gross margins.

This data represents forward-looking which is required in the system and used in this work. It need not be. We believe has already provided that it should provide and enhance the usefulness of the general management system. I wholeheartedly agree.

I fear, however, that the proliferation of discrete data systems will lead us all into a sea of numbers where we may flounder. I feel to be in sight with the advancement in data base management systems (DBMS). I commented in the reader's column the upstart who is on this topic by the name of. Such as the September/October, 1973, Harvard Business Review. With such systems, like can be derived that reduce data redundancy to a minimum, enable operating programs to automatically generate that out the time and cost of programming, and permit ad hoc programming for top level management purposes. The value of such systems using the company data base for modeling and forecasting must not be underestimated.

Lastly, and perhaps most importantly, the magazine of H&A, "WHY", 1973, gives passage of selling some of the great right's got out of human potential that has been wasted by passing opportunities through the ages. The concept of "ownership" of assets and productivity, the processes, mechanisms or machine operators in the hands, the schedules, circumstances, the work being done and others will without question, direct behavior modification. The handbook knows will not be forgotten.

Remember, we cannot just Participate, observe, and describe. We can share mighty actions, now occurring.

Roger E. Johnson

New England, November 14, 1973.

